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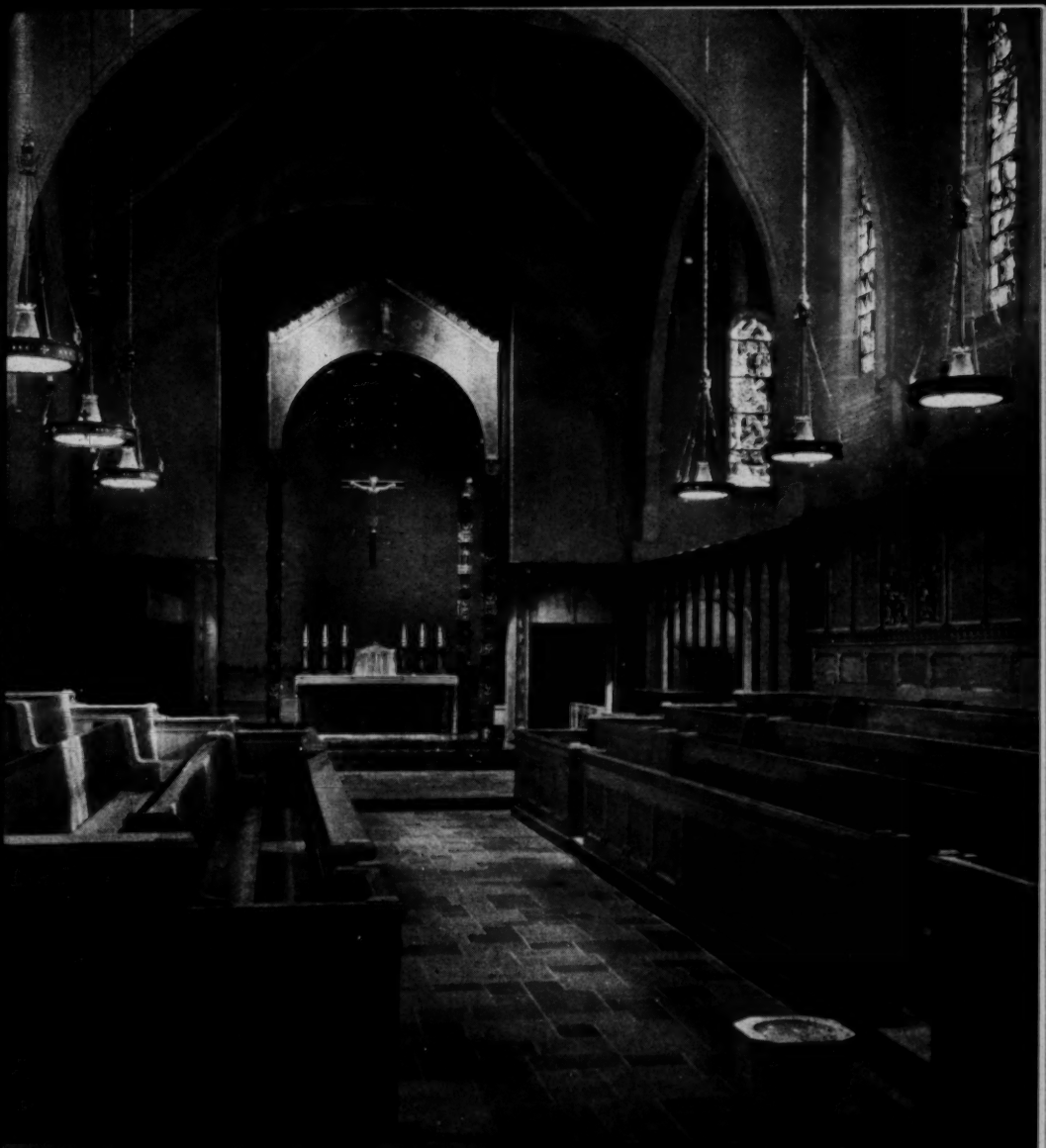

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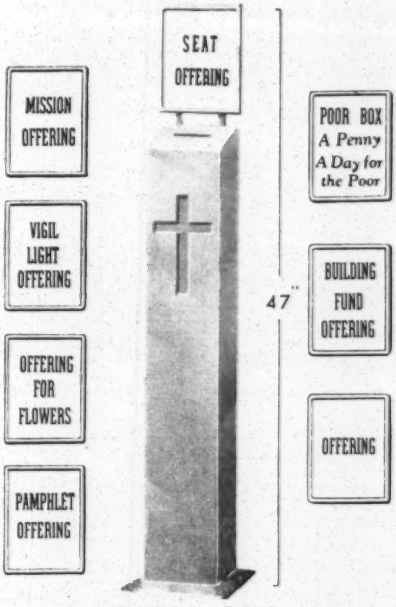

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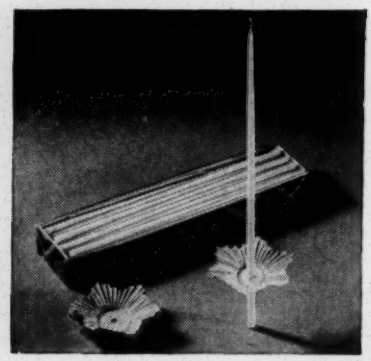

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ALUMNI POTENTIAL

Almost any discussion of the subject of what Catholic lay alumni can do for the Church demands at least a cursory explanation of one or two basic truths that have reference to all Catholic layfolk.

To begin with, genuine Catholic lay action has to be rooted in co-operation with the hierarchy. This implies vital integration with the liturgy whose chief form and center is the Mass or the repetition through a priest at the altar of the supreme oblation of Jesus Christ, the God-Man. All missionary labors whether in foreign lands or on main street draw their inspiration from the Mass, that is, from Christ. Coming close to lay graduates it may even be said that as far as they are concerned there is here a relation, even if remote, between that educational equipment we generally associate with Catholic alumni and alumnae and the liturgy of the Mass. The relationship is really not subtle. The fact that Catholic education is Christian implies teaching a way of life that is Christian; it implies inculcating principles that are Catholic and therefore Christian in the fullness of the Holy Sacrifice of the Mass.

It would seem, then, that educated Catholic alumni need never be looked upon as strangers in their own home simply because their hands have not been consecrated in the priesthood or because their lives have not been dedicated by the vows of religion. Because incorporated in Christ by Baptism a lay Catholic is a first-class citizen and an educated layman should look to a serious and solemn obligation of distinguished service for the Church. The term "alma mater" has primary application to the Church and in reality only secondary relationship to the college and university. The baptismal certificate in the hands of an educated Catholic is a far more important diploma than a college sheepskin, all things properly understood. Practical loyalty and faithful service of Catholic alumni belong to the Church and to their educational alma mater. She fostered and quickened the Faith through the arts and sciences just as genuine Catholic parents trained the soul and built the body in the younger years.

Moreover, although Our Lord trained and ordained twelve men as his first priests and apostles with Peter as his Vicar on earth

he also taught the multitudes of lay people who flocked to hear him. Hundreds of thousands of lay Catholic graduates have been taught by specially dedicated Christian educators in our time in the identical truths that Christ personally taught the multitudes nearly two thousand years ago. Hence it seems that Catholic graduates should have a sense of belonging when it comes to the idea of their position in the Church's apostolate.

Without co-operation that comes from a sense of belonging and is symbolized by the offering of material gifts at the Offertory of the Mass there could at no time, save by miraculous intervention, be a priesthood, the Mass itself, the universities, the colleges, the parish school and our entire missionary system. There could be no far-flung sacred apostolate of the Church if the laity and particularly the educated laity failed to hold up the arms of the Church by material and spiritual cooperation. The true layman is thus the right arm of the Church. Intelligent, zealous, devoted, he is a living integral member of the Church militant.

Catholic lay graduates, then, are not merely a phase of general lay population. The home, school and college training of these men and women in a Catholic atmosphere, the acquisition of solid principles, the true way of life opened to them, these priceless assets give parents and educators hope of a kind of love and loyalty that is shown by co-operative work. That sort of love is kindred to filial devotedness towards parents and is likewise shown in material and spiritual support. It is for this sum total result in Christian living that Catholic institutions of learning really exist. It is the why and the wherefore of the sacrifices shown in consecrated lives. Catholic training and the consequent results are more precious than the richest dowry. There are many Catholic alumni who appreciate this fact and reciprocate generously for the continuance and upbuilding of Catholic life in the generations coming up for the glory of God and of country. The Church needs many more loyal sons and daughters.

A glance at the accomplishments of many Knights of Columbus centers and the convert appeal and results of the entire lay order shows how vitally helpful Catholic laymen can be to the Church. Alumni can give back to the Church something of the enriched intellectual and spiritual heritage she has fostered and given to them.

Most laymen can help. Against the plausible complaint of professional and business preoccupations and the time needed in family obligations, there is the truth that generally speaking the busiest of our Catholic lay graduates seem to find time to zealously and effectively do much extracurricular work in various fields of endeavor for the needy and neglected neighbor. There are parish activities, the St. Vincent de Paul Society, the Knights of Columbus, the Little Sisters of the Poor and the Catholic Press. Any and all such fields are white for harvest.

The local parish can well use Catholic college and high school alumni for the benefit of the younger generation. The Catholic Youth Organization, for example, might well double its effectiveness if more alumni who are competent served it. There is not a parish but needs lay catechetical instructors to prepare children and adults for first Holy Communion, dramatics, sports, aid to the poor, reclaiming lapsed Catholics, sharing in the instruction of converts are fields of work that need lay volunteers. Lay graduates can help pastors and assistants in a volume of work that priests and nuns alone cannot cope with.

Beyond the parish are other works demanding the intelligence and the zeal of Catholic lay graduates. There is the field of public relations, feeling the pulse of life for or against the Church whether information is secured in the daily press or other channels of communications. The concern for the general welfare of Catholics belongs to all competent lay Catholics not only to Catholics in the state or federal legislature. Such matters as the spread of obscene literature, immoral movies and television shows fall under the obligations true Catholic lay alumni should shoulder.

More specifically in the material order the expansion of plants and facilities of the Catholic college or high school campus presents an apostolate whose success yields incalculable good for all time. As in all Catholic co-operative appeals the layman is here indispensable. Priests and nuns without lay leaders and workers become helpless. Endowments and teacher benefits fall under the title of material needs in the fields of Catholic education.

Without lay co-operation consecrated men and women would have no rostrum to lecture from and no desk to teach from. The layman, particularly the educated layman, who furnishes material

means for greater and better facilities, is truly a builder of unquestionable importance to Catholic education.

It is but fair to remind ourselves that Catholic graduates best known for marked loyalty and practical material aid to the Catholic college and university are they whose love and zeal have been fostered on the campus itself and after graduation in the parish hall. Our laity are grand people. They like attention and they need cultivation. I venture to say this against the open fact that not a few of our alumni are loyal and helpful by nature. But the name of those who need encouragement is legion.

GABRIEL A. ZEMA, S.J.

New York, N. Y.

THE THEOLOGY OF THE LITURGICAL YEAR

Since the coming of Christ, time has a Christian meaning. It is not simply the measure of *prius et posterius,* nor even less the tick-tock of the clock. As the inch on the ruler does not exhaust the mysteries of space, so the minute cannot disclose the full significance of time. Time is indeed measured, yet it transcends count. Time is colored by the way you look at it. For one it will mean the daily routine of punching the clock, for another the clatter of dishes, for the young the endless drudgery of pushing off for school so early in the morning, and for the teacher the never diminishing stacks of class-work to correct. But for all its humdrum monotony it has its special religious meaning: one for the ancient pagan, one for the modern pagan, still another for the thinking Christian.

Time is forever changing and yet remains the same. Minute succeeds minute, and hour follows upon hour. Yet they all go to make up regularly recurring periods of days, weeks, months and years. And life, too, the progress of which is thus counted out, is really the same. It is the same rise and fall of the sun, the same awakening and falling asleep—together with the work and repose that accompany both. There is the same death and rebirth of nature's vegetative life. And so, though minutes fly quickly by, they simply count out the coming and going of the identical natural phenomena.

We mechanical moderns tend to lose sight of the sameness in time for all our preoccupation with clock-watching and minute-counting. We are inclined to look upon time as an unending straight line which one day will break off abruptly. The ancients lived closer to nature, stood within its cycle of waning and reviving life. Because of this they looked upon the year as a circle. Hence the expression: *anni circulum,* the circle of the year. For them time was a circular movement which returned upon its own beginnings and within which all the marvelous feats of nature were constantly being worked anew.

Both conceptions can have a fatalistic ring, however: man might possibly be going nowhere. Man could either be living a totally disconnected life, or be going around in circles. Time, in reality, is

quite different: it has purpose, it is headed somewhere, albeit in circular fashion. Man living in time has an end, a supernatural end, which crowns and rewards his earthly life. For this reason, it would be better to conceive of time as a spiral movement—circular but going always higher until it brings man to God.

THE CHRISTIAN MEANING OF TIME

It is with Christ, of course, that the ancient circular concept of time becomes definitively a spiral one, for He stands at the end of man's past and effectively joins to it the hope of a glorious future. As a man born outside of time, He lived in time, worked in time, died in time, in order to bring man from time to eternity. "Jesus Christ, yesterday, today, and the same forever."[1] Like an ever constant present, Christ gradually reshapes man in the course of his cyclic natural life from what he was to what his Designer wants him to be.

Thus has Christ sanctified time, making it a symbol or sacramental of spiritual regeneration, growth and maturity.[2] Using the natural rhythm of the "circle of the year," Christianity, urged on by the *magnum mysterium* of redemption, has constructed a system of feasts and seasons to insert that mystery into man's life. And man, in turn, is thus gradually caught up into the current of Christ's life and bit by bit transfigured into His likeness. Come once into time, Christ is continued in time, uses time, gives time a power of sanctification that makes man live for himself the great wonders of redemption wrought by Christ so long ago.

What is true of time is also true of the spiritual life of man. It is always changing and yet remains the same. It is the same life of Christ that finds myriad concretizations as different men absorb and apply it to themselves according to their dispositions which change from day to day. And the Liturgical Year takes this into account as it changes, during the course of the natural seasons, the aspect under which it presents the mystery of Christ to men. This is important, for in the spiritual life there are no plateaus: man must either advance or retreat; he cannot remain static. And the annually recurring mysteries of Christ's life force him to take

[1] Hebr. 13:8.

[2] See the beautiful article of Odo Casel, "Le sens chrétien du temps," *La Vie Spirituelle*, 76 (January, 1947), pp. 18-26.

another step, make him change pace, give him reason to try harder to climb the spiral of a supernaturalized time that leads him to likeness to Christ.

Even though all days are holy since the coming of Christ, there are, nevertheless, certain days which are pre-eminently holy, special days which heighten man's attention to Christ and the spiritual life and thus keep him free of that killer of true devotion, routine. That such holy days are a real need in the spiritual life is well attested to by the universal practice of all religions, both natural and revealed. This all pertains to the time-rhythm of human life. Man cannot live in a rut; neither can he always live on the top of quickened emotion. He has ups and downs in his personal dispositions. This is his human condition, and the Liturgical Year, with its changing seasons and more outstanding solemnities, is especially well suited to it.

NOTION OF A CHRISTIAN FEAST

While it is all very good and important to insist on the "naturalness" of the Liturgical Year, it is no less necessary to bring out its other-worldly character, its supernaturalness. Christianity is not just another form of religious naturalism. It rests on the solid conviction that man, left to himself, can in no way "spiral" himself out of his human "fix." Oh yes, he might contrive to lift society, reform the mores of his people, invent all sorts of nice little gadgets that make for "a happy hunting ground." But our poor man will be deceived if he thinks his great empire is not doomed to be purely human—and mortal. He has neither a higher objective nor the power to achieve it. Both must come from God. Christianity is a supernatural religion based on a supernatural event: man transfigured and redeemed. Though the Church has conscientiously endeavored to adopt the seasons of the natural year as well as the solemn occasions of civil society, she has done this, not because these institutions were of themselves sacred, but in order to make them sacred and thus the more easily to sanctify man who uses them. Every feast of the Church is a commemoration of a *supernatural* event that happened among men to transform men into God. It is the work of redemption that the Church brings to man and inserts into the orbit of time which man uses and in which he lives.

And yet today we often get the impression that this or that feast is celebrated purely in honor of this or that saint. This simply is not true. Regardless of the immediate title of a feast, it is always celebrated as leading to or flowing from the central mystery of our religion, Christ's act of redemption! "Among all the feasts held sacred by Christian devotion," St. Leo tells us, "none is more excellent than the paschal feast. All other solemnities of God's Church find their dignity consecrated in it."[3] Easter was in fact the first and only feast for about a century. Only later were other feasts introduced, but all of them as a preparation for or a prolongation of this central feast. Each Sunday is a weekly reverberation throughout the year of the great Sunday. Christmas and its cycle—introduced in the middle of the fourth century—is a prelude to the work of redemption, while the feasts of the martyrs and many of the other saints are examples of the grace of the resurrection already become operative.[4]

But what kind of a commemoration of the work of redemption takes place in the liturgical feast? Is it merely a cold and lifeless *mental* review of the mysteries of Christ, as some would have it? Or is the very reality of the Christ-mystery made present in some way? Pius XII rather emphatically rejects the first view: "The liturgical year, devotedly fostered and accompanied by the Church, is not a cold and lifeless representation of the events of the past, or a simple and bare record of a former age. It is rather Christ Himself who is ever living in His Church."[5] And before him, Dom Odo Casel insisted that it was not sufficient to look upon the liturgical year as a pious contemplation of the details of Christ's earthly life—a non-baptized person could do that.[6] In our celebration of the Liturgical Year we are not simply pious antiquarians interested in studying about the historical Jesus. Christ is not only a fact to be known; He is also the "way and the life."[7] In the Liturgy, Christ repre-

[3] *Sermo* 48. *MPL*, 54: 298.

[4] For the theological arguments and patristic and liturgical evidence in support of these ideas see my paper, "The Easter Vigil: Climax of the Week and the Year," published in The Proceedings of the North American Liturgical Week of 1956: *People's Participation and Holy Week* (Elsberry, Mo., 1957), pp. 133-137, 139-141.

[5] *Mediator Dei* (America Press Edition), par. 165.

[6] *Le Mystère du culte dans le christianisme* (Paris, 1946), p. 134.

[7] John 14: 6.

sents and renews His life precisely as a way of salvation,[8] the realization of the mystical and ontological union of us with Himself which is the end and essence of the Christian life.[9]

We, of course, do not deny that fundamental to the Liturgical Year is a mental review of the various mysteries of Christ. If, as St. Augustine says, "the perfection of religion is to imitate whom we adore,"[10] it is important that the Liturgy teach us about Christ. From knowledge flows love, and love, in turn, prompts imitation. This is the whole meaning of the Foremass, the Service of the Word; it teaches us about Christ, His life, His work, with the obvious intent of feeding our minds with strong spiritual food for meditation and contemplation, of "giving us examples of virtue to imitate, of pointing out treasures of sanctity for us to make our own, since it is fitting that the mind believe what the lips sing, and that what the mind believes should be practiced in public and private life."[11] This mental review or memorial is basic to Christianity. We can never emphasize enough the fact that Christianity has sprung from an historical event, that it was from the injection of "divine blood," so to speak, into man that a new priestly people have arisen. We are children of the Second Adam, and like all good children we like to know about our father, so that we may be like him. If the ability to become sons of God depends on this supernatural event, the intensity of our conscious living as sons of God will depend on how well we co-operate with the picture God presents us of Himself. Here, then, in the didactic part of the Mass we are presented with story of salvation and the virtues of the Savior. This evokes a response: the willingness to accept the salvation shown through a willingness to be like the Savior, the Image of man saved.

But the power of the liturgical commemoration is not exhausted by our mental agility in assimilating Christian doctrine or in mulling over salvific events of the past. The power behind the Liturgical Year is rather "Christ Himself who is ever living in His Church. Here He continues that journey of immense mercy which He lovingly began in His mortal life, going about doing good, with the

[8] Casel, *op. cit.*, 135.
[9] *Ibid.*, 132.
[10] *De civitate Dei*, VIII, 17. *MPL*, 41:242.
[11] *Mediator Dei*, 153.

design of bringing men (1) to know His mysteries and (2) *in a way to live by them.*"[12] This twofold design of Christ in working through the Liturgical Year for men's salvation is actually brought about through some sort of a *presence* of His mysteries in the liturgical commemoration. And the Pope speaks of their being present in two ways: first, as shining examples of Christian perfection; secondly, "as sources of divine grace, due to the merits and prayers of Christ; they still influence us because each mystery brings its own special grace for our salvation."[13] Now we are in Christianity proper; we are in a sacramental system which not only shows Christ to us, but actually effects His likeness within us! Not only is the higher objective placed before man; he is given the power to attain it! But we are not yet speaking of the sacraments properly so-called. No. The Holy Father continues: "Our holy Mother the Church, while proposing for our contemplation the mysteries of our Redeemer, asks in her prayers for those gifts which would give her children the greatest possible share in the spirit of these mysteries through the merits of Christ."[14] The part of the sacramental system of which we are speaking now is the *sacramental prayer* of the Church. It is sacramental because it is said through the power of priesthood. It is Christ, therefore, who is praying, albeit using the Church, i.e., His members, as His instrument.[15] And Christ's prayer is always acceptable to the Father, always pleasing, always heard. The consequence? The effect of the sacramental prayer of the Church is infallible, in the sense that it always makes present and available for us the grace of the mystery commemorated. It is there for us to take or leave!

And yet more! This liturgical commemoration is not only a sacramental, it is also a *sacrament.* During the consecration of the Mass the act of redemption—Christ's sacrifice and the new life He gained for us through it—is made really present. Thus Pius XII: "This mystery is the very center of divine worship since the Mass represents and renews it every day."[16] He continues: "The august

[12] *Ibid.*, 165. Italics mine.

[13] *Ibid.*

[14] *Ibid.*

[15] Cf. my article, "The Nature and Definition of the Liturgy," *Theological Studies,* 18 (September, 1957), pp. 337-338.

[16] *Mediator Dei,* 164.

sacrifice of the altar is no mere empty commemoration of the passion and death of Jesus Christ, but a true and proper act of sacrifice wherein, by means of an unbloody immolation, the High Priest *does again what He already did on the Cross,* offering Himself a most acceptable victim to the Eternal Father."[17] As we read in the Secret for the Ninth Sunday after Pentecost, which the Pope quotes, "as often as this commemorative sacrifice is offered, there is wrought the work of our redemption."[18]

During the course of the Liturgical Year all the mysteries of Christ's life are individually celebrated. The reason for this is to give the frail human mind an opportunity of taking in the whole mystery of redemption according to its various aspects. Each feast permits us to contemplate more minutely the mystery of salvation and to drink more deeply of the current of grace and life flowing from our Head. After all, the Christian mystery is much too vast, infinite in fact, for the human mind to grasp all at once, just as grace itself cannot be adequately assimilated in its proper infinite mode by a human soul with strictly finite faculties of intellect and will. A human being needs to break down the one whole mystery of redemption into a pattern of cycles and feasts which allow him to be introduced slowly and gradually into the details of the mystery revealed and effected in Christ, and only thus to be transfigured into the likeness of Christ.[19]

Does this mean that the individual mysteries of Christ's life are made truly present as separate entities during the Liturgical Year? Though this opinion has been imputed to Dom Odo Casel, he emphatically states the contrary. The only historical salvific event of Christ's life which breaks the bonds of time and is made present under our ritual symbols is the central act of redemption.[20] By the central act of redemption Casel means Christ's sacrifice and its acceptance on the part of the Father as demonstrated in the resurrection. Not that the historical circumstances of Christ's being put

[17] *Ibid.* (A. Bugnini, *Documenta Pontificia ad Instaurationem Liturgicam Spectantia,* Rome, 1953), par. 67. Italics mine: *id agit, quod iam in Cruce fecit.*

[18] *Ibid.* (America Press edition), 79.

[19] Cf. L. Bouyer, *Liturgical Piety* (Notre Dame, Indiana, 1955), 192-198.

[20] "Glaube, Gnosis, und Mysterium," *Jahrbuch für Liturgiewissenschaft,* 15 (1941), 266.

to death and actually dying are made present; these took place only once in history. It is what was clothed in these historical circumstances that is important: the New Passover, the transition from earthly life to a glorified state.[21] This obviously implies the resurrection as the terminus of this salvific act, in the same sense that St. Thomas Aquinas sees the resurrection as a necessary part of the central act of redemption.[22] According to him, the death of Christ properly speaking is the efficient cause of the removal of the obstacle to our justification, namely, sin; the resurrection is the efficient cause of justification itself, namely, the life of grace.

What then of the other mysteries of Christ's life? Casel answers that the mystery of redemption is one whole unbroken unity. The other mysteries of our Lord's life are never present separately, for the different phases of our Lord's redemptive work cannot in actuality be separated from the whole mystery which is Christ the Risen Lord.[23] They are present from the viewpoint of Christ's central salvific act, therefore, only as presupposed (the Incarnation) or as resulting therefrom (the Ascension)—not in their individual reality.[24] If the Church has appropriated the different elements and phases of this Mystery[25] to the various festivals and seasons of the Liturgical Year, it was only because, as we have said, that this Mystery includes a very involved process (Christ's own early life as well as the preparation of Israel for His coming), and it can only be brought to man by way of a concrete, factual reproduction of the major events that go to make up the work of redemption. It is the same problem of bringing the eternal decrees and plans of God into the realm of time which is a successive thing. Man is so

[21] "Art und Sinn der ältesten christlichen Osterfeier," *JLW*, 14 (1938), 19-20; V. Warnach, "Zur Problem der Mysteriengegenwart," *Liturgisches Leben*, 5 (1938), 37.

[22] *Summa Theologica*, III, 53, 1, corp.; III, 56, 2, ad 4; *Comm. in Epist. ad Rom.* IV, 25.

[23] "Art und Sinn der ältesten christlichen Osterfeier," *JLW*, 14 (1938), 52; "Mysteriengegenwart," *JLW*, 8 (1928), 204, 207.

[24] "Das Mysteriengedächtnis der Messliturgie im Lichte der Tradition," *JLW*, 6 (1926), 204.

[25] It must be borne in mind that nowhere does Casel speak of a *Lehrgeheimnis*, the Mystery as a truth or doctrine. He insists over and over again that the Mystery of Christ, both in its historical phase as well as in its liturgical continuation, is an *action* effecting salvation.

bound up with the limitations of time, that he simply cannot be taken up into the divine, transformed into the likeness of Christ, unless the time which is so connatural to him is also in some way taken up and, so to speak, eternalized. And this surely means all the natural rhythm of time: days, seasons and years through which time flows and man lives.

Here, then, in the Liturgical Year we witness a wedding of time and eternity. Man the finite and time-bound stands face to face to the divine, eternal *mysterium tremendum* of salvation as it is offered to him in a concretized, itemized form by means of a mental review of the deeds of redemption and through a sharing of their specific graces with the help of the Church's sacramental prayer, and finally in the whole unbroken form of the central salvific act as found in the Eucharist. Thus he is led bit by bit up the spiral that flowers into the glory of definitive and final configuration to the Eternal Logos, the Image of the Father!

CONSEQUENCES FOR THE SPIRITUAL LIFE

The Church insists on the value of daily mental prayer, and rightly so, for man must reflect on the truths possessed by faith if he is to build up convictions strong enough to attach him irrevocably to a love, imitation and service of the Christ known through faith. Regardless of what method a person may use, mental prayer needs to feed on the wholesome objective truth of revelation as proposed and interpreted by the divine authority of the Church. Otherwise, instead of bringing man out of himself and leading him to the supernatural goal of likeness to Christ, it will only tend to falsify religion with emotionalism and sentimentality, it will only shape Christ to our way of thinking. It will naturalize Christ, instead of supernaturalizing us.

Every day the Church holds out to us her objective teaching about Christ. She intends very specifically to *instruct* us during the Foremass and effectively brings us the grace of each mystery she thus explains. She is very clearly, then, offering us matter to absorb and apply to our own lives as well as the grace to do so. But how can we expect to receive this grace in all its fulness and make an intelligent application of her teaching to ourselves and our condition, unless we open our hearts to that grace by reflection, meditation, by attempting to understand what she is saying, unless, as

Pius XII says, we "put our lips to the fountain, imbibe and absorb for ourselves the life-giving water"?[26] The work of redemption is taught to us and made present for us throughout the Liturgical Year, but for it to have its full effect, we must put forth that serious interior, mental and voluntary effort and experience the Christ-mystery in our souls.

By thus meditating on the Church's teaching contained in her Liturgical Year we are guaranteed of orthodoxy and purity of devotion, of proportion, harmony and homogeneity, in that we learn the *whole* Christ and do not isolate any part of Him that might satisfy our purely subjective fancy. We also become more conscious of the fact that we are members of His Mystical Body and live its life, and the danger is thereby lessened of divorcing ourselves from the body without which we cannot live. It is also an effective antidote against routine and formalism, for the Foremass comes to life for us in proportion as the mysteries of the Liturgical Year become more vital and real to us. We no longer simply go through so many epistles and Gospels, feasts and seasons automatically as through so many formalities, but we begin really to experience them, relive them. And thus the Liturgy becomes what it should be: the primary source of the true Christian spirit. It truly forms us to the image and likeness of the God-Man, and we accept all the formative influence it wishes to exert on us. It becomes a vivifying immersion in the Mystery of Christ, a sharing in the eternal life of God, a veritable transfiguration through grace to glory!

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[26] *Mediator Dei*, 31.

SOME ASPECTS OF THE PROBLEM OF CREATION

During the scholastic period, the question of a rational investigation into the possible eternity of the universe must have been a burning issue. That seems to have been the reason why St. Thomas entitled a work on the subject not only *De Aeternitate Mundi,* but rather *De Aeternitate Mundi Contra Murmurantes.* Such a problem is bound to be controversial, not only because (1) it is a Christian belief that the universe was created at the beginning of time, but also because (2) the question of the possible eternity of the universe is argued among philosophers, and (3) the assumption of the actual eternity of the uncreated universe has, at least until recent years, been widespread in the sciences.

In the old days of scientism, when science was held to be the court of last appeal in all matters, the omniscience of science, whose prophets were not real scientists but rather such adapters as Voltaire, Comte, Spencer, Haeckel, and Wells, hinged about Newton's laws, the Principle of the Conservation of Energy, and the principle that matter can neither be created nor destroyed. However in recent years each of these three foundations has been seriously questioned, and the sciences have veered close to theology because of some of the changes in their new tenets and conclusions. We can no longer ignore God, nor dismiss Him briefly as the cosmic watchmaker. The new bent of science has forced us to incorporate His wisdom into our considerations.

Creation being one of the problems that has theological, philosophical, and physical principles, there is an interplay of interpretation that could help all three or could play hob with any or all. That being the case, the burden of this article will be to look to some of the problems involved.

THE SCIENTIFIC ACCOUNT

At first sight, it may sound gratifying to hear scientists speak of the creation of the universe. Furthermore, they speak of this creation in terms of a definite time table, and we hear that creation occurred about six or eight billion years ago. Again, we find several fields of the sciences converging on the same problem. We are

told that geological evidence, basing itself on the saline content of the oceans, the age of rocks as indicated by their radiogenic effects, etc., coincides with the astronomical accounts based upon the "hydrogen-helium processes going on in main sequence stars of which our sun is one."

Since we have been forced, in the face of actual records, to push back the age of the human race in terms of a million years or so, rather than the few thousands of years that a literal interpretation of the Bible would give us, and since the universe is obviously older than the human race; and moreover, since it is obvious that God did not create the world in one week, the period of six or eight billion years sounds just about right. The time table aspect seems an excellent confirmation of creation in time, and the new astronomy and scientific cosmology do not have to pay too much attention to the old *bete noir* of theology, the Principle of the Conservation of Energy. At first sight, then, we are able to breathe easier. Things are looking up. We meet sermons with such expressions as: "Even science seems to confirm . . ." and "According to best scientific evidence . . ." and so on.

However, we should be careful. The scientists and we are speaking the same language, but we do not mean the same thing. When the scientist speaks about the creation of the universe, he does not mean it as we do: *factio esse ex nihilo sui et subiecti.* He is not dealing with being. He is dealing with becoming. He presumes being, and even for his creation in time theory, he still presupposes the existence of preexistent material causes. And even so, there is serious disagreement with the concept of a beginning or ending of the present processes.

Roughly, there are two main scientific theories of the universe: the Expanding Universe theory, and the Steady State theory. Both of these theories are based upon the same fundamental propositions of nuclear physics and of the radiation of energy, propositions by no means demonstrated nor universally accepted. They are based on the supposition, first confirmed by Hubble and Humason, and seemingly confirmed by the evidence of both visual astronomy and radio astronomy, that the matter throughout the universe is the same and goes through the same processes as the matter with which we are familiar and whose processes are tested in the laboratory. The uniformity of matter is a good assumption, since the *fact* of

uniformity is over and above the *theory* of the structure of matter.

Both theories *agree* in starting off with a superficially simple question first asked in 1828 by the astronomer Olbers, and known as Olbers' Paradox: Why is the sky dark at night? It is not simply because the sun has set, for no matter how large or small the universe may be, when we take into account the tremendous amount of starlight and other forms of radiant energy, the sky should be much brighter than it is. In fact, it should be brighter than daylight. We cannot say that something is in the way blocking off the light, since that would be shown up by being energized, or at least outlined after the manner of a silhouette. The conclusion is that light must be weakened because the source is going away from us. This seems to be confirmed by the "red shift" in the spectroscopic analysis of light. That is, if the object emitting the light is receding, the light has a tendency to spread out towards the red end of the spectrum. As a matter of fact, light coming to us from stars and galaxies seems redder than it should be, and the further the source, the redder the light. In other words, the bodies of the universe seem to be running away from each other.[1]

Although the two theories agree thus far, we may say here that they *differ* not according to what the universe *is,* but according to what it *was,* for they do not agree concerning the origin of this apparent expansion.

The Expanding Universe theory[2] was first advanced by the Belgian astronomer, Abbé Le Maitre, as a highly hypothetical suggestion. It received further support from Hubble and Milne. Its champions today are Gamow and Ryle. It maintains that if the universe is now expanding, in times past it must have been much denser. Density implies a higher energy level, so that in the beginning there must have been a gathering of primordial matter into one superdense mass, which, because of the intense pressures built up therein, the breaking down and building up of sub-atomic particles, exploded after the manner of a hydrogen bomb. This explo-

[1] Note that this is not the exclusive explanation of the "red shift." There may be other and unknown forces interfering with the passage of light and giving it its spread out appearance.

[2] For an accurate and not too technical account of this theory, see *The Creation of the Universe* by George Gamow; the Viking Press, New York, 1952.

sion, on a cosmic scale, sent matter scattering in all directions throughout empty space. As the matter scattered at tremendous velocities, it fell apart of its own weight and localized into huge nebulae of hydrogen, which in turn broke up into smaller galaxies, which are now in the process of the building up of stars. It is easily seen how this theory has gained the popular name of the "Big Bang" theory. The time table is inferred from the period required to build up stars out of the conversion of hydrogen to helium and thence to heavier elements. Judging by the analysis of ratios of elements already built up, and by the colors and temperatures of stars, a time average of the universe is obtained. The simplest description of this theory is that the present universe had a beginning and is going in a definite direction.

The Steady State, or "Continued Creation" theory[3] is a rather new theory. It was first advanced at Cambridge University by Hoyle and his colleagues, Bondi and Gold. In brief, this theory maintains that if there is no evidence of a superdense state in the past, there is no justification for the Expanding Universe theory. The alternative, then, is to explain the apparent scattering of the universe in terms of a continued creation, that is, a forming of matter on the one end, and disappearance of matter on the other, the future, either because it is too energetic or too distant to perceive. If this is true, we can attain no time table as to the age of the universe.

This theory hinges about two points: (1) the evidence of a past, superdense state, and (2) the difficulties concerned with building up of elements under conditions supposed to have existed in such a state.

Concerning the first point, the superdense state, Mr. Martin Ryle, director of the Cambridge University radio astronomy observatory, maintains that the perception of galaxies at a distance of about two billion light years shows them to be quite close together. Since this is a glimpse into the past, insofar as the radiation left them two billion years ago, Ryle argues that the relatively greater density of stellar and galactic matter at that period argues to a superdense state of matter proportionately further in the past.

[3] This theory is clearly explained in *Frontiers of Astronomy*, by Fred Hoyle; Wm. Heinemann Ltd., London, 1955.

Concerning the second point, the difficulties involved with the physical theory therein are quite complicated. Let it suffice to say, however, that Gamow claims to answer Hoyle point for point. Needless to say, such argumentation is highly hypothetical, since we are dealing with a set of conditions no one knows to have existed. Furthermore, any theory about the constitution of matter runs into the difficulty that atomic theory, nuclear theory, and theories of radiance are all similarly hypothetical. That is to say, even to make the statement that there is sunshine runs into at least three theories: classical mechanics, classical quantum mechanics, and relativity mechanics, no one of which determines whether or not light consists of rays or particles. Similarly, to explain tracks in cloud chambers, on photo-emulsion blocks, and in accelerators, there are any number of theories that try to explain the atom, the nucleus, and their parts in terms of waves, in terms of particles, and in terms of waves and/or particles; in terms of waves with particle characteristics, or particles with wave characteristics; or in terms of matter which is sometimes waves, sometimes particles; which *must* be so, or which *need* not be so.[4] These hypotheses are mathematical in character, hold together with a mathematically logical rigidity, and inevitably involve each other. Implicit in all of them is Heisenberg's Uncertainty Principle, which means that certain types of measurements involving position and momentum are out of the question, either because (1) measurement of such is practically impossible, or (2) momentum is meaningless as regards position, and position is meaningless as regards momentum.

All of this interplay of theory means that the scientist falls back on the most convenient "mechanical model"—i.e., mathematical explanation—for his work at hand. It also lends credence to the statement that there is no single mechanical model for the universe as a whole. Yet, both the Expanding Universe and Steady State theories postulate hypotheses of radiance and mass, about which we have much theory without too much justification about facts and conditions that we do not know to have existed.

The important points about all of this, *theologically,* are, I think, three: (1) although creation in time is a problem common to science and theology, we must be careful herein in seeking scientific

[4] The above theories are, respectively (and summarily), those of Newton, Huyghens, Planck and Einstein, Bohr, Dirac and Margenau.

confirmation for this theological point, because (2) to say that science proves the creation of the universe in time is to select one of two theories, neither of which is proven, and both of which are greatly complicated with immensely difficult hypothetical reasoning. (3) Neither theory deals with creation as such. Both deal with process, but one denies that there was a beginning, while the other supposes something previous to this universe, previous material causes whose beginning is not considered. The theological question of creation is not one of origin from a previously existing source. It is a question of the metaphysical relations between being and nothing, the necessity of an Omnipotent Creator, Pure Act, to explain being which is limited by potency.

THE PHILOSOPHICAL ACCOUNT

According to St. Thomas Aquinas,[5] philosophy cannot explain creation in time. Philosophy can, of course, explain creation, insofar as limited actualities are caused, and created causes require an absolutely First Cause. Creation, thus, is a metaphysical question, the dependence of limited actuality on Pure Act. However, the time element introduces the question of becoming, which for material things is the process of generation from material causes by efficient causes. The time element enters in insofar as each material cause is also a temporally antecedent source.

Aristotle[6] had maintained the universe to be eternal. His reasoning had been the above, namely, the temporal precedence of necessary material causes. However, he argues that any motion shows the existence of the first immovable mover (a principle whose nature is not at all clear) eternally moving and upholding the universe. We could also make explicit Aristotle's argument that since the incorruptible stars are the eternal sources of energy in the universe, the universe must be eternally reactive to the energy. Not having the benefit of revelation, Aristotle did not see how one could pin down any temporal beginning to material causes, especially since matter is indestructible. And, as a matter of fact, apart from revelation, how can we limit God's creating to *this* time rather than *that* time?

[5] See St. Thomas: *De Aeternitate Mundi Contra Murmurantes; Summa Contra Gentiles,* Book II, Chapters 31-38; *Summa Theologica,* Part I, Question 46, Articles 1 & 2.

[6] Aristotle, *Physics,* Book VIII, Chapter 1, ff.; 250b11 ff.

St. Thomas' argumentation is of a somewhat different nature. He realizes that although Aristotle's arguments cannot be overthrown, they are relatively demonstrative, in view of certain errors, and are not Aristotle at his best.[7] St. Thomas' own reasoning is that to consider either the non-eternity or the eternity of the world, we must explain it through the Eternal and Creative Will of God. However, that being the case, we cannot, on grounds of reason, rule out the possible eternity of the world. God always existed, and since He is not limited by time, nor limited by His creatures; moreover, since His action is identical with His nature, His causality is not limited by time. It is instantaneous, and not in any way temporal. Furthermore, even though the processes of the universe are all temporal, they will last as long as matter lasts, and there is no reason why God could not always have had matter in existence nor always to have continued to create new material causes. Furthermore, the very arguments advanced for the existence of God, based as they are on the contingency of creatures, argue to an Eternal and Omnipotent God, and thus our theodicy almost inevitably leads to the fact that God could always have had the universe in existence ". . . in a beginning not of time but of creation . . ."[8]

St. Thomas' argumentation boils itself down to two points: (1) God is not limited to any given time when it comes to creation. (2) The question of creation is not that of becoming *(esse ad esse)*, but that of being *(posse ad esse)*. We cannot rule out the possibility of eternal creation. Hence, we cannot demonstrate that the universe began in time, for true demonstration must take possibilities as well as actualities into account. His conclusion is that the fact of creation in time is an article of faith.[9]

Oddly enough, there is a scientific principle which, as a matter of fact, does enter here, and that is that matter can neither be created nor destroyed.[10] The first part of that statement means that we cannot get something from nothing. The latter part means

[7] *Summa Theologica*, 1, 46, 1c.

[8] *Op. cit.*, 1, 46, 2 ad. 1.

[9] *Op. cit.*, 1, 46, 2c.

[10] The failure to account for this without a source or creator in continued creation is one of the weaknesses of the theory. Hoyle evades this issue by stating that it is not his problem. (Cfr. *Frontiers of Astronomy*, p. 342 ff.) However, to raise a question demanding an answer, and then to say that

that no matter what is done in the material order, there is always a residue, a remnant. Metaphysically, it means that only God can create, and only God can annihilate, since only God can bridge the gap between something and nothing. Hence, any true consideration of creation must take God into account, otherwise there is the inevitable supposition of previous material causes, unexplained physically or metaphysically.

THE SCRIPTURAL ACCOUNTS AND THE TEACHING OF THE CHURCH

It has always been part of genuinely Christian belief that creation occurred in time. After all, the opening of Genesis is: "In the beginning . . ." However, this "beginning," whether in Genesis or in St. John's prologue, can be interpreted to mean a metaphysical dependence as well as a temporal beginning, and textual criticism could weaken the significance of the term from the point of view of universal belief. However, there are other texts which are quite clear. Two significant ones are in the seventeenth chapter of St. John's Gospel, and they read as follows:

> And now do thou, Father, glorify me with thyself, with the glory that I had with thee *before the world existed* . . .[11]

> Father, I will that where I am, they also whom thou has given me may be with me; in order that they may behold my glory, which thou hast given me, because thou hast loved me *before the creation of the world* . . .[12]

With this as a basis, we can say that the question is settled once and for all. However, in the Seventeenth, Eighteenth, and Nineteenth Centuries, the rationalists began to call upon their carefully selected interpretations of the Principle of the Conservation of Energy[13] and some interpretations of Newton's laws to

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such a question is ". . . entirely meaningless within the terms of reference of science . . ." is, itself, a bit unscientific. Otherwise astronomers are wasting their time in seeking out the nature and origin of such phenomena as cosmic rays.

[11] John, 17, 5; italics added.

[12] John, 17, 25; italics added.

[13] The Principle of the Conservation of Energy is a principle which has never been proven and never been disproven. As advanced by James Cameron Joule, it works nicely enough for steam engines or any other closed system. Roughly, in one of its many forms, it means that work is the rearrangement

question the existence of God and, by all means, to deny His providence and governance. They considered the universe an eternally closed system, completely self-sufficient, needing nothing other than itself to exist. They undoubtedly sneered at the definition of temporal creation by the Fourth Lateran Council (1215)[14] as part of the "medieval enslavement of reason to religion"—that is, if they knew anything at all about the definition. Consequently, Holy Mother Church, in the Vatican Council,[15] snapped right back with two definitions: (1) that it is possible to prove the existence of God from reason,[16] and that God created the universe in the beginning of time.

As mentioned at the beginning of this article, we have had to suffer at the hands of scientism. It must have been a galling experience for a number of churchmen to have themselves considered stupid, and we have all resented the consideration that we are "reactionaries." Perhaps the lowest ebb in the history of mankind was the enthronement of the "Goddess of Reason," not in some highly cultured period of Greek civilization, but rather in the peak of vicious mob rule, in the middle of the "Age of Enlightenment," in the blood-thirsty violence of the French Revolution. This is the glorious achievement of Voltaire and the rest of his colleagues, all of whom were steeping themselves in simplified versions of Newton-made-easy, along the style of the "Boy's Book of Atoms," and "Be Your Own Astronomer." Incidentally, Newton's discoveries never affected Newton himself in this way. Even though he was anti-

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of available energy, or that the output of a system is the same as the input, minus friction and drag. However, the availability or non-availability of energy has become a hypothetical point, and we can raise the question as to whether or not the universe is a closed system.

[14] Conc. Lat. IV, Caput 1, *De Fide Catholica,* Denziger, 428:

Firmiter credimus et simpliciter confitemur . . . unum universorum principium: creator omnium visibilium et invisibilium, spiritualium et corporalium: qui sua omnipotenti virtute simul *ab initio temporis* utramque de nihilo condidit creaturam, spiritualem et corporalem, angelicam videlicet et mundanam: ac deinde humanam, quasi communem ex spiritu et corpore constitutam . . . (Italics added.)

[15] Conc. Vat., Sessio III, Caput 1, which repeats, almost word for word, the text of the Lateran Council.

[16] This is, indeed, a notable critique of the snobbery, arrogance, and superficiality of the "Age of Enlightenment" that the Church had to define as a matter of faith that reason can prove the existence of God.

Roman, he was not irreligious, and he firmly maintained that scientific conclusions protected belief in God.[17]

Things have changed, and the picture is different now. The inevitability of scientific progress has shown the superficiality of the atheism of previous scientism. In fact, we are somewhat embarrassed by the almost theological statements of leading scientists. We are flooded with writings of a helping-hand-of-friendship nature, firmly admonishing us not to be stupid, for there is no antagonism between science and religion. In fact, science and religion (we are told) are marching hand in hand into a wiser future. Good will is oozing out all over the place.

In this matter, we must be especially careful. Already, we have had scripture scholars weakening texts in view of theories of evolution. There is the suggestion that complete metaphorical interpretation is to be preferred when it comes to "pre-history." There must be room for metaphorical interpretation, but we must await sure fact rather than a given interpretation of a given theory which is by no means widespread in its acceptance. There is just as much evidence, for example, that Adam was human as we understand it, rather than Neanderthalic. Scientifically, we can easily hold that position without, in any way, denying the cumulative force of evolution or the real existence of fossils. Yet this is but one example of how too close identification of sources of faith with a given scientific theory can be somewhat imprudent. All that seems to remain now is for someone to raise the question, in virtue of accepted meanings, as to whether "In the beginning" really means in the beginning, and therefrom to reinvestigate other texts from the viewpoint of this new stand. I suppose we have to learn the hard way that any scientific theory is by its nature hypothetical and changeable, and consequently must be approached with the same attitude as the scientist's: respect tempered with caution.

In brief, and by way of a conclusion, the point of this article is not in any way to belabor the sciences. Personally, I have been

[17] Newton, *Opticks,* Book III, Part 1, *ad finem:*

. . . And if Natural Philosophy in all its Parts, by pursuing this Method, shall at length be perfected, the Bounds of Mortal Philosophy will be also enlarged. For so as we can know by Natural Philosophy what is the first Cause, what Power he has over us, and what Benefits we receive from him, so far our Duty towards him, as well as that towards one another, will appear to us by the Light of Nature . . .

doing too much work in cosmology and with the scientists to feel anything save loyalty to and respect for the findings of the scientists. They are sincere and dedicated men, patiently pursuing their objectives with a zeal that would put many of us to shame. However, they are not theologians, nor is science theology. We should not expect the scientist to do the work of the theologian, and we should be especially careful in seeking to confirm expressions of doctrine and theological conclusions with scientific findings. *By any epistemological standards, there is far more evidence of the truth of the Scriptures and the teachings of the Church than there is for any scientific conclusion.* The reason for that statement is brief. The sciences are hypothetical in nature, whereas reality proves the existence of God. God has plans for man, given us in revelation. The purpose of revelation, thus, is to clarify and not to confuse. In order to insure clarification, God has founded the teaching Church. As members of that Church, we should be open minded concerning the sciences, and we should encourage their development. However, we should also realize that even though all disciplines bearing on the same subject are expressions of the truth, they are parallel and not identical paths. Several of these paths may involve only partial truth, and may incorporate a certain degree of error. The Church, however, by Divine promise, in her purpose, her Founder, and her teaching, has the whole truth, Divinely guarded and infallibly expressed.

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MARY'S FIAT

Our Lady's consent to the Incarnation began the economy of the Redemption. By decree of God that consent was hypothetically necessary for the fulfillment of the Redemption. This is true, not because God was dependent upon secondary causes in elaborating the mystery of the Redemption, but because God willed that the Incarnation and the Redemption should be conditioned by Mary's consent to become the Mother of a God Who was, at the same time, a Redeemer.[1]

In giving her *fiat* to become the Mother of the Redeemer, Mary was giving her consent—and herself—to the work of the Redemption.[2] By her consent, moreover, Mary was given and was accepting a share in Christ's salvific mission.[3] With her *fiat,* therefore, Mary became a true helper, the *adjutrix,*[4] to Christ in the work of salvation. Hence, in the full and strict sense of the word, Our Lady became a Co-redemptrix from the moment of her consent to the Archangel Gabriel's message.[5]

With her *fiat,* Mary's co-redemptive function with its role of meriting[6] commenced. From her and in her the *Verbum* assumed flesh to merit the redemption of all flesh. Through the physical body that He assumed, the Second Person of the Blessed Trinity "acquired a spiritual and mystical body—the society of those who believe in Christ. 'We, the many, are one body in Christ' " (*Rom.,* 12:5).[7] Of this mystical body, Christ is the head and those to be redeemed by His blood are the members.

At Nazareth, "When Mary conceived the Head she conceived the members."[8] ". . . all those whose life was contained in the life

[1] Cyril Vollert, S.J., "The Fundamental Principle of Mariology," *Mariology,* ed. Juniper Carol, O.F.M. (Milwaukee: Bruce, 1957), Vol. II, p. 79; cf. Pius XII Ency. *Ad Coeli Reginam* in *A.A.S.,* Vol. 46 (1954), p. 634.

[2] J. B. Bover, S.J., *Deiparae Virginis Consensu* (Madrid, 1942), passim; cf. also Bover, *Maria Mediadora Universal* (Madrid, 1946), pp. 253-274.

[3] Rev. Dr. Wenceslaus Sebastian, O.F.M., "The Nature of Mary's Spiritual Maternity," *Marian Studies,* Vol. III (1952), pp. 30-31.

[4] St. Albert the Great, *Mariale* (*Opera Omnia,* ed. Borgnet, Parisiis, 1898, Vol. 37), q. 29, III, p. 62; q. 148, p. 214; q. 150, p. 219.

[5] Sebastian, O.F.M., *loc. cit.*

[6] Pius X, Encyc. *Ad Diem Illum, A.S.S.,* 36 (1905), p. 454.

[7] Pius X, *op. cit.,* p. 452.

[8] Cyril Vollert, S.J., *op. cit.,* p. 87.

of the Saviour."[9] "On Calvary, co-operating as Co-redemptrix, offering her Son in sacrifice, she gave birth to the members in *actu primo,* who became members in *actu secundo* as they are successively joined to the Head by being incorporated into Him at their baptism."[10]

With Mary's *fiat* began the sacrifice of the Redemption whereby Christ, in the first instant of the Incarnation, offered Himself along with the members of His mystical Body conceived with Him in the womb of Mary. From that first moment of the Incarnation Christ made the interior sacrifice of His Sacred Heart for the redemption of mankind.[11] That interior offering of His heart was Christ's principal redemptive sacrifice, i.e., the soul of the sacrifice,[12] by which, in obedience to His Father's Will,[13] He offered Himself as a victim to redeem the world by a bloody death upon a cross.

This bloody death would externalize, body forth and complete the internal sacrifice of Christ. The external sacrifice, however, would not replace or excel the more essential sacrifice, eternal in duration, namely the interior offering of His Sacred Heart.

That internal sacrifice begun at the Incarnation would continue through eternity,[14] externalizing itself in various modes: At the Last Supper the externalization would be unbloody. There Christ visibly present, the one priest offering, would sacrifice Himself sacramentally under the species of bread and wine. This sacrifice He would make in anticipation of and by virtue of His death on the morrow. On Calvary Christ in His own proper species, priest and victim, would sacrifice Himself in a bloody manner. Finally, at the Mass today, Christ the invisible Priest sacramentally offers Himself as a victim under the species of bread and wine through the hands of His visible priest. And in all these sacrifices Mary would have her share.

[9] Pius X, *op. cit.,* p. 453.

[10] Vollert, S.J., *op. cit.,* p. 87; cf. Pius X, *Ad Diem Illum, A.S.S.,* p. 453; cf. S. Tromp, S.J., *Corpus Christi quod est Ecclesia* (Rome: Gregorian U.), 1946, pp. 13-15.

[11] Sebastian, O.F.M., *loc cit.*

[12] St. Thomas Aquinas, *Summa Theologica,* II-II, q. 85, art. 2 and 4.

[13] Hebrews 5,5-10.

[14] Reginald Garrigou-La Grange, O.P., *The Love of God and The Cross of Jesus,* II, p. 397 (trans. Sister Jeanne Marie, O.P.).

To the interior offering of Christ's Sacred Heart, she would join the interior offering of her Immaculate Heart.[15] To the various modes of Christ's external sacrifice Mary would also unite her sacrifice.

At the Last Supper she would be morally present, one heart and one mind and one soul with Him as He offered Himself, anticipating sacramentally the bloody death that He would die on the morrow. On Calvary Mary would be physically present at the foot of the Cross uniting her compassion to Christ's passion, offering the sacrifice of her mother rights,[16] her heart and her compassion along with the bloody sacrifice of her Son.

That same co-operation Our Lady gives today to the priest at Mass, standing[17] spiritually and invisibly beside him as she stood beside her Son at the foot of the Cross. Here at Mass, Mary stands beside the visible priest as he offers up the Holy Sacrifice by the power and in the name of her Son, thereby continuing and representing the bloody sacrifice of the Cross.

From the Annunciation to the Crucifixion Our Lady co-operated with the mystery of Christ's redemtpion. With her *fiat* she consented to God's whole plan of salvation. By her *fiat* she united her internal co-redemptive sacrifice—the oblation of her Immaculate Heart—with the internal redemptive sacrifice of Christ—the holocaust of His Sacred heart—in her womb. Later on Calvary her internal sacrifice would be completed and fulfilled when it would unite itself with both the internal and external sacrifice of Christ on the Cross.

By Christ's passion and death on the Cross, we were redeemed. Dependent upon and powered by that passion and death, Our Lady's compassion and mystical death co-redeemed the world. What Christ won for us by condign merit, Mary won for us by *de congruo* merit.[18] What Christ achieved by satisfaction, Mary achieved by co-satisfaction. What Our Lord accomplished by His bloody sacrifice, Mary also accomplished by her unbloody co-opera-

[15] Pius X, *op. cit.*, pp. 453-454; cf. Sebastian, O.F.M., *op. cit.*, pp. 30-31.

[16] Benedict XV, Encyc. *Inter Sodalicia, A.A.S.*, 10 (1918), p. 182; cf. Pius XII, Encyc. *Mystici Corporis, A.A.S.*, 35 (1943), p. 247.

[17] "Oratio ad B.M.V. ante Missam," "Preparatio ad Missam," *Breviarium Romanum.*

[18] Pius X, *op. cit.*, p. 454.

tive sacrifice. Christ's redemptive act of merit, satisfaction, sacrifice and ransom, and Mary's co-redemptive co-operation were predestined and accepted by God the Father for the salvation of the world.

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FIFTY YEARS AGO

The leading article in *The American Ecclesiastical Review* for April, 1908, by Dom Philibert Feasey, O.S.B., entitled "Palm Sundays," is an interesting account of the liturgical customs that prevailed in mediaeval England on the Sunday beginning Holy Week. The author informs us that it was frequently the custom for the priest to carry the Blessed Sacrament in the procession on that day, so that the triumphal entrance of Christ into Jerusalem would be commemorated more realistically. We are also told that in all probability the yew tree so frequently found in our old churchyards was so planted in order to provide branches for the Palm Sunday procession. . . . Fr. T. Campbell, writing from Charlottetown, Prince Edward's Island, suggests some modifications in the method of teaching in our seminaries, which he believes would stimulate the students to keep up their studies after ordination. . . . Fr. H. Vincent, O.P., of the Biblical and Archaeological School, Jerusalem, contributes an article on "A Eucharistic Find at Ancient Gezar, Palestine." The find was a vessel evidently intended to contain the Blessed Sacrament (and still retaining some traces of the species of bread) placed in the tomb of a deceased Christian. Commenting on this custom of the early centuries, the author says: "Instead of the former provision of food and drink—vain phantoms or ineffective realities which consoled the survivors but gave expression to no very serious hope—there is hung above the corpse momentarily asleep in death the Eucharist, treasure of divine hope and earnest of the future resurrection of the body.". . . Fr. James O'Neill, of Chicago, summarizes the history of the Church's legislation on clandestine marriages. . . . Fr. R. F. O'Connor, of Ireland, concludes his series of articles on "De Rancé and the Trappist Reform.". . . Fr. P. J. Sloan describes the way in which he believes a priest can most effectively conduct a Sunday school. . . . Fr. George Leahy, of Boston (now residing in St. John's Seminary, Brighton, Mass.), suggests improvements in the pronunciation of Latin.

F.J.C.

PHYSIOLOGIC CONTROL OF FERTILITY: PROCESS AND MORALITY

Over the past five years attention has focused increasingly on the possibilities and prospects for regulation of human fertility by physiological means.[1] More recently, reports presented at scientific and professional meetings indicate that not only has substantial progress been made in basic and applied research but a point is being approached where practical implementation will become possible. And, although technical problems, relating both to long run side effects and to manufacturing costs, remain unresolved, one may now assume that in the foreseeable future a presumably safe antifertility drug will be marketed widely. With this eventuality in mind, a review of developments and of their moral implications seems timely and appropriate. The publicity given the subject in the press makes proper evaluation the more important.[2]

[1] See, for example, papers in *Annals of the New York Academy of Sciences,* 54:729-868 (May 2, 1952), presented at a conference sponsored by the Academy (October 19-20, 1951) on "World Population Problems and Birth Control"; two papers outlined the state of knowledge concerning physiology of the reproductive system: W. T. Pommerenke and M. A. Breckenridge, "Biochemical Studies of the Female Genital Tract," *ibid.,* p. 786-795, and J. MacLeod, "Biochemistry of the Male Genital Tract," *ibid.,* p. 796-805. See also the survey article of P. S. Henshaw, "Physiologic Control of Fertility" in *Science,* 117:572-582 (May 29, 1953); the paper of A. S. Parkes, "Quest for an Ideal Contraceptive" in *Proceedings of the Society for the Study of Fertility:* No. 5 (1953), p. 20-26; and the exploratory discussion of Abraham Stone, "Control of Fertility" in *Scientific American,* 190:18 (April, 1954). Several papers on the topic will be found in the *Proceedings of the Fifth International Conference on Planned Parenthood: Tokyo, 1955* (London: International Planned Parenthood Federation, 1956). More recetly, papers reporting fertility-research findings were presented at the Conference on New Steroid Compounds with Progestational Activity, sponsored jointly by the New York Academy of Sciences and several pharmaceutical companies; news account in *New York Times,* October 9, 1957.

[2] Among popular accounts appearing in the press the following may be noted: "No Magic Pill for Birth Control," *Science Digest,* March, 1956, p. 51; "None for the Women," *Newsweek,* April 2, 1956, p. 82; "Sell Birth Control Pills," *Science News Letter,* 70:309 (November 17, 1956); "Contraceptive Pill," *Time,* May 6, 1957, p. 83; "Claims Development of Anti-Pregnancy Pill," *Science Digest,* September, 1957, p. 9; "Regulating Pregnancy," *Time,* October 21, 1957, p. 70; "Contraceptive Pills on Market," *Business Week,* October 26, 1957, p. 112.

As used by some, the term "physiologic control of fertility" would include periodic continence, inasmuch as this practice utilizes the rhythmic cycle of fertility and sterility which is physiological in nature.[3] There may be some justification for such inclusion, since the findings from current research can, and probably will, provide a scientifically sounder basis for effective use of this method. Morally and psychologically, however, the difference between systematic continence and the commonly discussed methods of physiologic control is very significant.

As used in this paper, the term refers to those methods of controlling fertility which secure their effect through the elimination or modification of physiological processes essential to reproduction, by administration of drugs, serums, and the like, and which therefore usually require no further interference with coitus immediately before, during, or immediately after its performance. The essential feature of physiological control processes is that they modify internally the chemical and physiological conditions of the body (of the man, woman or both).

Although the concept of physiologic control is not a new one, the concentrated effort for discovery of a scientifically proven antifertility factor is contemporary in origin. This search has its chief motivation in a growing desire on the part of some to find a simple and generally acceptable substitute, medically and esthetically speaking, for heretofore conventional methods of contraception.[4] Added stimulus has been given the research by a conviction that in less developed parts of the world, where death rates tend to decline more rapidly than fertility, a readily available and inexpensive drug, which would demand a minimum of literacy, skill, and effort on the part of users, might well be in great demand.[5]

Historically, claims have been made by various peoples, including North American Indian tribes, that they had herbs or drugs capable of preventing conception or of otherwise reducing fertility.[6]

[3] Thus, Henshaw, "Physiologic Control of Fertility."

[4] For background information on traditional methods, see *Medical History of Contraception*, by N. E. Himes (Baltimore: Williams & Wilkins, 1936).

[5] See, for example, C. E. Folsome, "Progress in the Search for Methods of Family Limitation Suitable for Agrarian Societies" in *Approaches to Problems of High Fertility in Agrarian Societies* (New York: Milbank Memorial Fund, 1952), p. 129-138.

[6] Cf. Himes, *op. cit.*, passim.

Some of the reported practices involving ingestion of such concoctions undoubtedly were based on false magical or superstitious beliefs; alleged effects of these practices often are to be explained in terms of other, unrelated causative factors. But certain of the claims apparently have a foundation in physiological realities, and hence are subjected to continuing study by scientists. Prominent among the plants thus studied are *Pisum sativum* and those of the genus *Lithospermum.*[7] Thus far, however, research efforts in this direction have not produced practically applicable results.

Recent experimentation on fertility regulation found more readily utilizable leads in the growing body of knowledge about endocrine behavior, the sex hormones, and the physiology of the reproductive system generally. For the past half century significant data in this area has accumulated rapidly. During the last two decades practical applications of the results of hormone research have been multiplying at an accelerating rate. Heretofore much of the applied research was directed at goals other than fertility control, such as therapeutic treatment of generative disorders, correction of conditions making for sterility, and the like. Today, however, discovery of an antifertility factor seems to be a major objective.

I. UNDERLYING BASIS FOR PHYSIOLOGIC CONTROL

Human reproduction is an extraordinarily complex phenomenon, the details of which are as yet but partially understood by biochemists and physiologists. Contemplating the complexity of the closely related physiological processes in man and woman, upon whose coordination and proper functioning depends the possibility of fertilization and pregnancy, some have expressed wonder that a child should ever be brought to term. While the complexity can be exaggerated, it does present many opportunities for failure of function or for upset of the delicately balanced mechanism. In any case, it is upon these possibilities for disturbance, and hence for deliberate disrupting intervention on the part of man, that the concept of physiological control is based.[8]

[7] Thus, *lithospermum ruderale,* a plant found in dry areas, has been known to cause infertility in cattle who ate it. Laboratory experiments indicate that both it and *pisum sativum* (the garden pea) can be made to yield extracts with antifertility qualities.

[8] See the discussion on physiologic control and its medical implications, in P. S. Henshaw, *Adaptive Human Fertility* (New York: McGraw-Hill, 1955), pp. 190-228.

To review in detail the physiology of the generative processes, both before and after fertilization, would be a lengthy task and one which lies outside the scope of this paper.[9] Nevertheless, it seems useful to draw attention briefly to certain aspects of the process which have a direct bearing on physiological control as currently developing. In this way, the implications of the discoveries, as well as subsequent distinctions regarding specific morality will be more evident.

Reproduction in general and the production of sperm and ova in particular are under the control of a complicated system of biological regulating substances called hormones. There are numerous male and female hormones produced primarily by the sex glands (testes and ovaries, respectively) but also by other glands as well. The level of sex hormones prevailing in the body in turn is regulated by other hormones and by nervous factors in an exceedingly complex manner of which scientists presently have only a fragmentary knowledge. Also at work are various enzymes, complex organic substances whose presence makes possible specific biochemical reactions. Some of these are active in producing elements required for generative function. In addition, without certain nutrients and vitamins fertility could not be maintained.[10]

In the male the formation of germ cells is continuous, in the absence of intervening forces. The primitive cells (spermatogonia) present at birth in vast numbers go through a division process (meiosis) and develop to a point where they are capable of fertilizing an ovum. The mature sperm constantly accumulate in the epididymis of the testicles where they are available for transport to the urethra. The formation of seminal fluid, which becomes the vehicle or carrier for the minute sperm, is also continuous. The components of the ejaculate come not only from the testis and epididymis, but also from the seminal vesicle, prostate, and bulbou-

[9] For a summary of contemporary knowledge on the subject, see a standard medical text, such as: E. H. Starling, *Principles of Human Physiology*, rev. by Evans and Hartridge (Philadelphia: Lea & Febiger, 1956).

[10] On the role of hormones in the reproductive process, in addition to works already cited, see the following: R. H. Williams (ed.), *Textbook of Endrocrinology*, 2d ed. (Philadelphia: Saunders, 1955), especially the article on "The Ovaries" by G. V. Smith, p. 350-402; Gregory Pincus (ed.), *The Hormones*, Vol. II. (New York: The Academic Press, 1950); the article on "Hormones" in the latest edition of *Encyclopedia Britannica* (1956).

rethral glands. For reasons not altogether clear, the sperm concentration in the ejaculate must not, as a rule, fall below a certain level if fertilization is to be possible. Moreover, the effectiveness of the sperm, which is related to its motility and potency, depends upon the degree of acidity, the viscosity, and the nutrient and other properties of the seminal fluid. This complex functioning of the male reproductive system could break down at one or another point, were it not for the continuous influence and appropriate interaction of the sex hormones.[11]

In the female there are small spherical sacs, called follicles, embedded in the tissue of the ovaries, each containing an undeveloped egg cell or ovum. The number of these, considerably in excess of reproductive needs, apparently is already determined at birth. Approximately every twenty-eight days during the reproductive span (roughly, from ages 15 to 45), one of the follicles, with its enclosed ovum, comes to maturity. The developed follicle then emits its ovum (ovulation). Prior to ovulation, the follicle hormone estrogen exerts an influence, helping prepare the way for possible fertilization. Upon occurrence of ovulation, the hormone progesterone fosters conditions in the uterus favorable to implantation of the fertilized ovum and to maintenance of pregnancy. If there is no pregnancy, then the lining tissue (endometrium) of the uterus, which has been built up (proliferation) while the ovum was maturing, deteriorates and is finally shed as menstruation. The complex cycle then begins over again and hormonal balance shifts back from the progestational to the estrogenic phase. If, however, pregnancy occurs, progesterone continues to be produced. During the initial stages of pregnancy its presence is in some way connected with inhibition of further ovulation.[12]

Once the ovum has been released from the follicle, its passage down the fallopian tube (from the ovary to the uterus) is facilitated by physiological reactions there. At the same time, a normally functioning tube provides conditions favorable to upward movement of any sperm which may be present as a result of coitus.

[11] See Starling, *op. cit.;* also, Pommerenke and Breckenridge, "Biochemical Studies of the Female Genital Tract" and MacLeod, "Biochemistry of the Male Genital Tract."

[12] On findings concerning action of progesterone and the progestational hormones, see Footnote 18 below.

Should sperm and ovum meet, and fertilization take place, the developing organism moves down the tube and finally passes into the uterus. It is there implanted in the lining prepared for it by progesterone, where it grows. Thus pregnancy is established. Progesterone maintains the lining of the uterus, and no shedding or menstruation takes place for the duration of the pregnancy.

Even in the absence of efforts at conception regulation, there always remains a probability that sperm and ovum will not meet during the fertility phase of a given cycle. The life of the ejaculated sperm is limited, so that two or three days after coitus, the chances of a live sperm meeting an ovum are negligible. Moreover, once the follicle has emitted the ovum, this remains fertilizable only for a matter of hours, or at most a day or so. Hence, only when coitus takes place within the fertile period of four or five days, and under otherwise favorable conditions, is there possibility of conception.[13]

II. INTERFERENCE FOR CONTROL PURPOSES

It is the aim of physiological control procedures as herein understood to disrupt the functioning of the generative mechanism in such a way that conception becomes impossible, or else that the product of conception is denied a chance to develop. This would be accomplished by interfering in the complicated reproductive process at some vulnerable point, either in male or female, or in both. Even from the brief sketch above it may be deduced that numerous points of vulnerability exist. How many of them will be made use of on the practical level depends on a variety of considera-

[13] This temporal limitation on the period of fertility, or days when impregnation can occur, is the physiological basis for the practice of periodic continence as a means of regulating offspring. Methods for calculating the approximate time of ovulation, and hence the days of fertility, were worked out experimentally more than two decades ago by K. Ogino and H. Knaus. A survey of the findings on the subject will be found in various handbooks, for example, A. Krempel, *La Continence périodique: Traité élémentaire à l'usage des Époux et de leurs Conseillers: Knaus, Ogino, Smulders.* (Mulhouse: Editions Salvator, 1954). Difficulties in use of the method spring either from failure to follow the calendar adapted to a given individual's normal cyclic pattern (thus, subject failure), or else from unexpected or irregular ovulation (that is, off-schedule) which may have been occasioned by physical or emotional factors, or both.

tions, including the findings of basic and applied research. The following are among the principal possibilities.[14]

In the male a physiologic attack can be made on the germ cells in their developmental stages, or else upon the seminal fluid in process of formation. So far as spermatogenesis is concerned, points of particular vulnerability seem to be at the time of cell division, and during the period when the sperm are maturing in the epididymis. As regards the seminal fluid, interference could alter or neutralize one or other of the components, with a view to rendering it a less effective medium of sperm transport. But whatever the procedure employed, in the case of the male the net effect aimed at would be either to keep live sperm out of the ejaculate or to make them less motile or potent in the vagina.

In the female the points of vulnerability to physiological attack are more numerous, extending as they do after, as well as before, the moment of intercourse. In fact, establishment of pregnancy does not terminate these possibilities. With later classification in mind, we here divide the vulnerable points into those which imply an antifertility effect before fertilization and those which imply the complete effect only after fertilization.

With due allowance made for difference in germ-cell maturation and release, points vulnerable to attack in female generative process before conception occurs are not dissimilar to those in the male. Thus, physiological interference could inhibit egg maturation in one way or another. Changes might be induced in the tubal lining so that a newly released ovum would encounter a medium unfavorable to life or motility, or so that sperm present as a result of coitus would be deprived of potency. There might also be effected modifications in the cervical discharge which would render it hostile to sperm still in the vagina.

A point of reproductive function to which special attention has been paid is when sperm and ovum meet. Though thousands of sperm normally make their way to the vicinity of the ovum, only one of them is needed to effect fertilization. In fact, after a sperm penetrates the ovum a biochemical barrier is set up against further entries. Those engaged in fertility research have noted that were

[14] On the points in generative function which are specially subject to interference, see: W. O. Nelson, "Survey of Studies Relating to Vulnerable Points in the Reproductive Process" in *Proceedings of the Fifth International*

it feasible to establish such a barrier beforehand, then even a single sperm might be prevented from entering. Attention has also been given the possibility that, by affecting the sperm physiologically, say in the direction of agglutination or clumping, their progress up the tubes toward the ovum might be slowed down or inhibited entirely.[15]

But the effects of physiological attack upon the female reproductive system may not be fully realized, so far as antifertility action is concerned, until after fertilization. One can, for example, so interfere with the proliferation of the endometrium, or preparation of the uterus lining, that it becomes incapable of receiving or maintaining the fertilized ovum. Also, metabolism of the parent-embryo complex can be disrupted in such a way that normal development is inhibited and the embryo dies. Finally, medical science has long known that certain drugs could be used to induce abortion. The implications of this phenomenon in connection with physiologic control of fertility has not been overlooked.

Research effort has been directed toward a number of the vulnerable points outlined above. In some instances practically significant findings have been reported in the professional journals and literature.[16] Without here attempting a summary of conclusions published to date, the following developments are mentioned as worthy of note.

In various experiments reported over the past two years, the antifertility effect apparently was related to absence or suspension

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Conference on Planned Parenthood, p. 157-163; A. S. Parkes, "Research into Biological Methods of Controlling Fertility" in *ibid.,* p. 163-168; Henshaw, "Physiologic Control of Fertility."

[15] On establishing a "barrier" between sperm and ovum, see: B. Sieve, "A New Antifertility Factor," *Science,* 116:373-385 (October 10, 1952). Therein the late Dr. Sieve affirmed that regulated doses of phosphorylated hesperidin had produced the results indicated. Initial skepticism in scientific circles later gave way to an attitude that the claims are likely but require further confirmation. More recently, attention has again been focused on the compounds in question.

[16] Those wishing detailed information on particular experiments or factors, in addition to that found in articles herein cited, will do well to consult the usual reference sources: *Biological Abstracts, Index Medicus,* etc. Not all conclusions reached thus far have been reported. Abstracts of reports on progestational compounds and their effects upon fertility were prepared for the conference referred to in Footnote 1.

of ovulation.[17] From the findings the experimenters have inferred that normal functioning of the cycle, and more specifically ovulation, is susceptible of suspension over extended periods. This suspension is attributed generally to regulated administration of one or other progestational compound, the effectiveness of which seems to follow upon their ability to inhibit follicle growth and hence maturation of the ovum. In lieu of using their technical names or chemical formulae, they may be referred to as synthetic hormones. Publicity in recent months has centered on antifertility drugs of this type, and particularly on progesterone.[18]

[17] Suspension of ovulation, apparently by inhibiting follicle growth, usually is attributed to the progestational hormones, among which progesterone is the best known. As reported in the Conference on New Steroid Compounds with Progestational Activity (see Footnote 1), various synthetic hormones of the progestational variety have achieved this result with differing degrees of effectiveness. Some compounds (for example, 19-nor-17-ethinyltestosterone) were in certain instances found more effective than synthetic progesterone.

The progestational compounds have also been effective in ending involuntary childlessness, at least where this is due to habitual abortion (spontaneous), connected with hormonal imbalance or deficiency during time of pregnancy. It would seem that because these compounds (like the natural hormones they substitute for) are *progestational,* they are also inhibitors of ovulation and hence are "antifertility" in the medical sense of the word. In other words, while they are fully operative (normally during the pregnancy period) nature wards off further ovulation. For further discussion of the findings and their probable explanation, see: G. Pincus, "Some Effects of Progesterone and Related Compounds Upon Reproduction and Early Development of Mammals" in *Proceedings of Fifth International Conference,* p. 175-184; Masaomi Ishikawa, et al, "Report on the Control of Fertility by Oral Progesterone" in *ibid.,* p. 186-187; A. Stone and H. S. Kupperman, "The Effects of Progesterone on Ovulation" (Preliminary report), *ibid.,* p. 185. See also: *Acta Endocrinologica,* Supplement, September, 1956.

Both biologically and morally pertinent is the following remark of Dr. Pincus in the paper just cited: "There is a suggestion in our data that in women exogenous oral progesterone may act as an antifertility agent for reasons other than its ovulation-inhibiting action. The frequent occurrence of atypical endometria and already mentioned indication of suppressive action on endogenous progestin suggest possible effects on ovum and sperm transport and on implantation." This possible effect upon implantation presumably would be connected with the presence of unusual progestational factors during the estrogenic phase of the cycle, while the endometrium is being prepared for implantation should fertilization occur.

[18] Several preparations are being distributed in limited quantities on an experimental basis: Enovid (G. D. Searle & Co., Chicago) and Norlutin

Results reported from experiments with certain other compounds indicate that these latter presumably would have their effect even after ovulation had occurred. Some apparently so modified the endometrium that implantation could not take place.[19] Still others

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(Parke, Davis & Co., Detroit). Both seem to be of the progestational variety; presumably Norlutin utilizes 19-nor-17-alpha-testosterone. As reported in *Business Week* (October 26, 1957, p. 112), several other companies are in the final stages of research and development, namely, E. R. Squibb & Sons (division of Olin Mathieson Corporation) and the Upjohn Company (Kalamazoo, Michigan). For the time being at least, none of these preparations are likely to be used very widely. Not only are the synthetic hormones being checked as to long-run effects, but their manufacture is still quite complicated and costly.

Reports published in the press indicate that field tests in Puerto Rico and elsewhere, with human subjects, confirm laboratory findings as to ability of progestational compounds to forestall pregnancy. In some instances, side-effects (vomiting, nausea, etc.) were noted and occasioned concern about long-run implications. Field tests with Enovid and Norlutin indicate that when properly used these drugs can assist pregnancy in women otherwise likely to lose spontaneously the product of conception. Taken at certain times, however, the progestational drugs are reported to be effective in suspending ovulation or in otherwise exerting an antifertility effect. For these latter purposes they have been administered to women during the middle portion of the cycle, more especially from days 5 to 25, counting from the first day of the last menstruation.

On the findings and conclusions, see the articles and reports already cited on progesterone and its effects upon fertility and pregnancy (see above, Footnote 17). See also: *Business Week, loc. cit.*, and *New York Times*, October 16, 1957. Private reports indicate that in one pilot project no pregnancy, attributable to drug failure, was noted in more than 2,000 patient months of exposure to risk of conception.

[19] Thus, in experiments with ergotoxine it was found that either pregnancy was not established or abortion occurred. See, for example, M. C. Shelesnyak, "Studies on the Mechanism of the Implanation of the Fertilized Ovum: A Fertility Control Target" in *Proceedings of the Fifth International Conference*, p. 201-205. Shelesnyak notes: "Thus the available evidence indicates that the ergotoxine complex acts in such a way as to upset the estrogen/-progesterone status of early pregnancy." He adds that the exact process is not clear but that deciduomata were found in the uterus linings. It was inferred that the atypical development of the decidual tissue was connected with the inability to receive the fertilized ovum or to maintain pregnancy. It would seem that the intrauterine devices of the nineteenth century (Grafenberg ring, etc.) achieved a similar effect by mechanical irritation. In this connection, see: Himes, *Medical History of Contraception*, passim;

affected metabolism so that fetal life was resorbed or made to die.[20] These latter drugs (antimetabolites) are regarded as dangerous because of possible harm to maternal health, and because they may occasion abnormal development in the fetus should its death not be accomplished. Antimetabolites have been used experimentally with human subjects in diseased condition, instead of surgical evacuation otherwise contemplated. In a number of cases abortion followed upon their use.[21]

Research directed at discovery of technically feasible antifertility drugs has for the most part borne in mind certain characteristics which are said to be desirable. These can be listed as: (1) medical safeness (no long-run harmful effects); (2) simplicity in use (that even illiterates can follow the instructions); (3) esthetic acceptability (as with an orally ingested tablet); (4) likely cheapness of manufacture and sale (adaptable to wide distribution); (5) reversibility in effect (on desisting from use normal function returns). Advocates of physiologic control lay considerable stress on the last-named characteristic, because, they say, regulation at will ordinarily is preferable to permanent sterilization.[22]

With proper moral evaluation in view, it should here be emphasized that certain progestational compounds under study have been shown to assist, rather than inhibit, normal function. Thus, after administration of synthetic progesterone to habitual aborters a larger than usual percentage of fetuses went to term. In other instances, certain compounds were found useful in correcting amenorrhea (absence of menstrual discharge) and in otherwise fostering normality in the cycle. Such findings have implications not

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A. Stone and N. E. Himes, *Planned Parenthood* (New York: Viking Press, 1951), p. 137-139.

[20] See, for example, J. B. Thiersch, "The Control of Reproduction in Rats with the Aid of Antimetabolites and Early Experiences with Antimetabolites as Abortifacient Agents in Man" in *Proceedings of the Fifth International Conference*, p. 187-193. Reporting on experiments with various antimetabolites upon rat populations, Thiersch notes that in a high percentage of cases death of the fetus occurred and that in some instances apparently disintegration or resorption of fetuses took place.

[21] Cf. Thiersch, *op. cit.* He reports that in one series of 12 women, already designated for surgical evacuation, 10 aborted after voluntary administration of certain metabolites. In another series of 12 cases, with cavitary tuberculosis, 6 aborted spontaneously at varying periods after taking the drug.

[22] Cf. Henshaw, *Adaptive Human Fertility.*

only for promoting fertility where otherwise unlikely, but possibly also for correcting conditions which render periodic continence less effective.[23]

III. TOWARD SOME DEFINITIONS AND A CLASSIFICATION

Even from the summary presentation above of the basis and possibilities for physiologic control, it becomes evident that a new type of fertility regulation is emerging. This has certain similarities, not only in outcome but also in procedure, to existing forms of contraception and to methods of sterilization and abortion already in use. The dissimilarities, however, are in some respects fundamental and of radical significance, certainly to the moralist, but also to those concerned with medical law and public health. It is our purpose here to indicate some distinctions and problems of classification which should be taken into account by all dealing professionally with the subject. With a view to sharpening concepts, it is suggested that further discussion be carried on by moralists, medical men, lawyers, and social scientists.[24]

[23] Among those consulted by the authors, different opinions prevail as to likelihood of successful correction of cyclical irregularity with hormones. While the literature reports results of therapy in correcting such disorders as anovulation, thus far relatively little has been said about the possibilities of treatment precisely with a view to more effective use of periodic continence.

[24] The following illustrates, but does not resolve, the many problems of terminology which confront the student of human reproductive behavior. Three terms now in common use and susceptible of ambiguous interpretation are: *birth control, contraception, fertility.* The first is quite generic and has been used to include every method of controlling or limiting the number of children born. *Webster's Dictionary* (New International) adds: "especially by preventing or lessening the frequency of impregnation, as by the use of contraceptives." Some scientists, in classifying methods of "birth control," include under it subdivisions for sterilization and periodic continence. Yet to the moralist both these latter have connotations different from that of simple contraception, say by use of an occlusive device or by withdrawal.

At times Catholic publicists speak of "birth control" without noting such distinctions, and hence give an impression their condemnation (in reality of artificial contraception, sterilization, feticide/abortion) is directed against every effort to regulate number of offspring, regardless of means employed. Aware of the problem of terminology, Pius XII made a careful distinction in his 1951 address to the "Family Front" (*A.A.S.*, 43 [1951], 859), confining his use of the term "birth control" to illicit (unnatural, artificial) methods. In contradistinction he used "regulation of offspring" as a term applicable to legitimate means (thus, periodic or continued continence). Nevertheless,

The conventional, and heretofore common, methods of positive contraception—as distinguished from castration and surgical sterilization, and from feticide, abortion, and infanticide as generally understood—have for the most part centered around the conjugal

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in common usage there remains, and probably will remain, an ambiguity about the term "birth control" which it is well to take into account. Those seeking precision should be specific.

The term "contraception" is somewhat more precise in that usually it is not understood to mean protracted or complete non-use of marriage. In the popular mind it seems to be associated with fairly regular engagement in marital relations, while, however, taking steps to avoid conception. Yet even here there arises a problem of distinguishing means. Social scientists generally employ the term *contraception* to designate any systematic effort to forestall pregnancy. As subclasses they sometimes include sterilization and periodic continence, and even abortion and feticide. Considered empirically, at least on the level of gathering and classifying facts as to conception and childbearing, this is justifiable usage. However, in terms of motivation, of socially significant means, of values and norms in the minds of those controlling offspring, this broad usage leaves something to be desired. By omitting the psychological factor in classifying marriage practices, it tends to remain on the level of vital statistics. Sociological analysis and theory suffer as a result. The moralist, needless to say, insists on knowing the particular procedures employed in avoiding conception. Only then can he arrive at a valid moral judgment and a satisfactory classification of behavior.

"Fertility" is a term which apparently evokes somewhat different concepts with different people. To the medical man and biologist the term commonly is regarded as synonymous with reproductive capacity. Thus, they contrast it with biological sterility, as in speaking of fertile and sterile phases in the female cycle. At times, however, even in contemporary medical literature the term seems to include also reproductive performance, that is, the number of offspring born. But to the professional demographer and sociologist, at least in the United States, the term *fertility* relates to actual performance (number of children born and/or trends in birth rates). The term *fecundity* is applied to potential fertility, or capacity to reproduce, without determination as to actual number born. This usage of the social scientists is at variance with that found at times in the biological literature. Moreover, some Europeans writing in the social field seem to follow the less sharply defined biological and medical usage. Careful attention to context usually will show what sense is intended in particular cases.

In designating the drugs and serums used in physiological control of conception and/or pregnancy as *antifertility* in character, the term is being used in the demographic-sociological sense. Thus, without indicating the precise point of physiological interference, it covers any means (physiological in operation) which prevents the birth of live offspring. *Antifertility drugs* is, then, a suitable generic term. It avoids the possible ambiguity arising from denoting the procedures as "contraceptive."

act as such and on its immediate consequences.[25] Thus, withdrawal (coitus interruptus), and use of the condom, pessary, or other occlusive device, involve physical or mechanical interference at the time of intercourse, in order to prevent the ejaculated sperm from entering the vagina, or at least from reaching the cervix of the uterus. Similarly, vaginal douching immediately after coitus is intended to remove the semen or to kill the sperm, or both. Spermicidal powders, tablets, suppositories, and jellies, introduced vaginally just prior to intercourse, seek the same objective by chemical means.

It is characteristic of the new methods of physiologic control, on the other hand, that they need involve no such external interference with the genital organs, nor the imposition of any positive block at the time of coitus.[26] The antifertility effects would follow upon physiological conditioning, achieved, generally speaking, well in advance of, or at least apart from, sexual relations. Thus, so far as its externally observable elements are concerned, the sex act would be performed naturally. This fact may become a source of confusion in some minds when it comes to their assessing the morality of the new procedures.[27]

[25] Cf. Himes, *Medical History of Contraception;* also, see the summary outline of contraceptive procedures usually found in standard texts.

[26] Thought has been given to the possibilities of a vaginal tablet or a suppository of progestational compounds. Experimental findings indicate the feasibility of such an approach. However, despite the need for genital insertion, the mode of operation would be physiological. Use, moreover, would not be so closely tied in with the coital act as is the case with spermicides and other conventional methods of contraception.

[27] Both in discussions and in the literature, among Catholics as well as among non-Catholics, there is a tendency to obscure the basic moral issues in use of antifertility drugs by concentrating on the fact that they permit the couple to perform the sex act naturally, so far as its externally observable elements are concerned. In this connection see: Karl Sax, *Standing Room Only* (Boston: Beacon Press, 1955), p. 184, where it is stated: "The basis of Catholic opposition to artificial birth control is clearly defined by William J. Gibbons, S.J.: 'By artificial birth control the [Roman Catholic] Church means the use of any mechanical or chemical contraceptives resorted to for the purpose of keeping the male seed from reaching the uterus and thus penetrating to the Fallopian tubes.' Obviously the prevention of ovulation could not be classed as 'artificial birth control' as defined by Father Gibbons. It is almost certain that a simple, effective, and inexpensive oral contraceptive could be developed and distributed within a few years for less than the cost

But physiological means of fertility control also differ in their manner of operating from most techniques of sterilization and of abortion or feticide heretofore in use. There is no need whatever for surgical action or for violent intervention from outside the physical person. Once the drug is taken in the appropriate quantities and at the correct time, the results will follow automatically and perhaps without their accomplishment being perceived by the subject. There may, of course, be instances where physiological conditions are present which neutralize or inhibit the antifertility effect. Also, if timed properly, some effects might be offset by the taking of other drugs. But the neutralizers and inhibitors would themselves be working physiologically. Even in the case where an abortifacient drug taking effect late in pregnancy is used, the muscular contractions and other reactions would follow upon use of the drug rather than upon any external voluntary action at the time of abortion.[28]

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of a single atomic bomb. An oral contraceptive of this sort would be both a practical solution and perhaps the best compromise in regard to the general problem of creeds and needs." The reference of Dr. Sax is to: W. J. Gibbons, "The Catholic Value System in Relation to Human Fertility" in *Studies in Population,* ed. by G. F. Mair (Princeton University Press, 1949), p. 119. What was overlooked, however, is that in the lengthy 1949 paper at the Population Association meeting, the moral objections against sterilization (including that which is temporary) and against feticide and abortion were presented in some detail. Moreover, the category "artificial birth control" was used there (before the advent of antifertility drugs) as a substitute for "contraception" (see Footnote 24 above) and as a subdivision of unnatural, and hence immoral, ways of preventing conception or pregnancy. The biological purposes of the sex act, the duty not to frustrate nature by positive means in her functioning, the primary end of marriage as an institution, all these had already been touched upon (see p. 111-113). Such misunderstandings, as regards the morality of antifertility drugs, would be avoided were more attention given to the general line of reasoning within the natural law framework, and were account taken of the actual mode of operation of the drugs and of possible confusion of terminology.

[28] Thus does abortion induced physiologically differ from that which requires physical and more immediate interference, such as jumping, puncturing of the amniotic sac, surgical intervention by craniotomy, etc. Nevertheless, even when abortion has been induced physiologically, the possibility of reversing the effect with neutralising factors might continue for some time. Thus, the "voluntariness" of the effect cannot be said to terminate simply with the taking of an abortifacient drug, so long as neutralization is possible.

Admittedly, certain methods of sterilization or abortion experimented with or used in the past were physiological in their mode of operation, though at the time attention generally did not focus on that aspect of the matter. Thus, sterilization induced temporarily by X-ray or heat (and, of course, the use historically of certain herbs) was effected physiologically rather than surgically. Also, use of the fungus ergot, or other drug, to induce abortion was an example of a physiological attack upon fertility. What distinguishes the present quest for an antifertility factor is the very extensive scientific checking on effects and on side-effects and exploration of new avenues of approach. This effort is related to anticipation of a mass market of global proportions. The final result of the present experimentation, provided a drug meeting the specifications is found, will be a new type of fertility control in common use.[29]

In order to clarify the following moral discussion of physiological control of fertility, it will be helpful to attempt a classification of the techniques described above according to broad categories customarily used in moral treatises. Indeed, such classification is necessary in order to decide questions about the various species of sin which may be involved in any given practice.[30]

Generally speaking, it would seem that all of the practices mentioned above as possible forms of physiologic control can appropriately be considered as either (a) sterilization, or (b) abortion or feticide. To be sure, scientists and the general public apparently regard physiological control as but a new form of contraception; hence, such inexact expressions as "the contraceptive pill." However, a closer examination of the matter leads to the conclusion that physiologic control procedures do not share the essential characteristics of contraception, despite the fact that they resemble it

[29] Some note, however, that continuing high costs of manufacture, doubts as to harmful side-effects, and uncertainties in the minds of some about possible feticidal results from certain drugs will tend to slow down the popularization of the new methods.

[30] However, the basic moral judgment upon the immorality of using antifertility drugs to prevent conception or to destroy its product does not depend on the ability to decide in every instance how a given drug works or what effects it may have. The action and effect of some drugs is clearcut; that of others ambiguous. See the following section, on some applicable moral principles.

in certain other respects. Admittedly, some forms of physiologic control are contraceptive in the etymological sense of being "against conception." And some are contraceptive in terms of their effect and end result. But they are not such when it comes to the physical act or process involved. Considered from this latter point of view, they bear a closer relation either to sterilization or to abortion or feticide.[31]

Forms of physiologic control falling into the second category pose little classificatory difficulty. They are all those, whatever their precise point of interference, which interrupt the generative process *after* fertilization, that is, after the sperm has united with the ovum.[32] Means of this sort prevent the further movement, or growth and development, of the fertilized ovum or of the embryo or fetus.

That the remaining forms of control fall into the category of sterilization is somewhat more difficult to see, in view of the resemblance of certain procedures to contraceptive techniques of various sorts.[33] Their basically sterilizing character, however, can be seen from the following considerations.

Physiological control techniques render the person (man or woman) sterile in the fundamental meaning of the word, namely, as incapable of reproduction even though not medically impotent. Thus, they modify or reconstitute the individual's functions or

[31] Moral evaluation and logical classification of the new antifertility factors will proceed more satisfactorily if attention is paid to the physiological reactions and effects involved in the various procedures. Medical and metaphysical realities are likely to be distorted by such terms as: "birth control pill," "contraceptive pill," "life pill." The latter term has been used in Great Britain.

[32] No attempt is made here to indicate at what precise point a new organism comes into existence biologically or metaphysically; presumably it is when the pronuclei unite to form a new nucleus rather than when a sperm first penetrates the ovum.

[33] In a preliminary version of this paper the authors were ready to allow some middle ground between sterilization (functional) and feticide/abortion. On closer examination of the issues they came to see the twilight area as one in which there may be some legitimate question as to whether a given procedure operates physiologically or merely mechanically or chemically (that is, as a spermicide in the heretofore customary sense of the word). Once an antifertility factor has been shown to be truly physiological in its mode of operation, it is their contention that logically it falls into one or other of the categories indicated.

physiological processes (perhaps only for a short time) in such a way that conception cannot take place. This is done without any immediate interference or modification of the sex act at the time of its performance. Moreover, the antifertility effect or factor is "built in," and becomes a part (in a very real sense of the word) of the person's physical constitution.[34]

In contraception, on the other hand, there usually are no true modifications in the person's physical being (organs, secretions, fluids) or in the normal processes of their bodies. Put another way, contraceptive agents (at least as commonly understood to date) are foreign to the body, in the sense that they are not incorporated into it in any fundamental way.[35]

For example, consider apparently parallel cases. A condom or pessary places a block between the ovum and the sperm. But, the block remains physically distinct from the body of either person. When, on the other hand, we speak of putting a protective barrier around the ovum and/or sperm, the term "barrier" is being used in an analogous sense. The barrier actually is found in the very modification of the structure and characteristics of the sperm or ovum themselves, understanding these as including not only the nuclei but surrounding cytoplasm and normally adhering factors as well. The barrier is in no sense a completely distinct physical entity.[36]

Consider the more difficult case of the comparison between physiologic control which renders the female genital tract (more precisely its mucous membrane and secretions) hostile to the ovum or sperm, and the more conventional agents (spermicides, foaming powders, jellies, suppositories, etc.) which accomplish basically the same effect. (Some also, of course, establish physical blocks.) In the case of physiologic control, the hostile factors or elements are built into the bodily functions or fluids in a fundamental, intrinsic way, that is, by participating in the physiologic processes

[34] Both biologists and metaphysicians presumably will continue to experience difficulty in indicating in clear, conceptually precise terms how and when some material factors become part of the living organism.

[35] In other words, they are not metabolized.

[36] Thus, hyaluronidase, of which phosphorylated hesperidin is said to be an inhibitor, either adheres to the sperm or is a normal factor present in seminal fluid. On the reported experiments of Sieve, see Footnote 15 above. See also: Henshaw, "Physiologic Control of Fertility" (p. 574).

of the organism. In the case of conventional contraceptives, the hostile agent is more properly said to have been added to the bodily secretions without really becoming a part of them; it remains essentially a foreign agent.[37]

Further clarification of classificatory fine points will require rather close consideration of the physiological processes involved in a given procedure (that is, of the scientific facts), as well as more careful definition of heretofore loosely defined terms, and notably the term "contraception."[38]

IV. SOME APPLICABLE MORAL PRINCIPLES

From what has been said thus far it may be deduced that physiologic control of fertility is not a wholly univocal concept, as regards intent, methods, or effects. Regrettably, some popular writers have spoken as if it were, paying insufficient attention to basic differences between various procedures employed and between effects intended. Since the term "physiologic control of fertility" suffers from the same ambiguity as the concept, care needs to be exercised in its use. In what follows it is our purpose to point out some pertinent distinctions as well as comment briefly on the morality of the physiologic control measures envisioned or under experimentation.

(1) Much of the *fertility-related* research now in progress will result in findings capable of being put to constructive use. Thus, not only is more being learned about the physiology of reproduction in general, but practical conclusions have already been drawn regarding diagnosis and treatment of recognizably abnormal and pathological conditions. Other such conclusions are anticipated. Hence, apart from intent, such as quest of an antifertility factor

[37] It may be that some spermicides now in use, or being experimented with, actually fall into the category of physiological factors. Were this so their reclassification would be called for. See Footnote 58 below.

[38] On the potential confusion attaching to the term "contraception" see Footnote 24 above. As regards use of the antifertility drugs, it would seem important that the public be informed not only on what may happen to the product of conception, but also how their own bodies may be affected by habitual interference with physiological function. In the case of conventional contraceptives, and even of surgical intervention, this issue did not arise to the same extent, although there always has been question of harmful irritation or of physical damage.

to be used for contraceptive purposes, and apart from illicit means, such as direct interference with generative processes in human subjects for antifertility ends, such research is in itself permissible and even praiseworthy. Needless to say, in the fertility area, as in other research areas, the usual moral rules apply. There is, for example, the strict obligation to respect the physical and moral integrity of the human person, and to refrain from needlessly dangerous experiments. For morality imposes limits even upon the quest for knowledge.[39]

(2) *Therapeutic use of fertility-related drugs* is not inherently wrong. Thus, certain hormonal compounds are administered to correct disorders of the female or male reproductive system, or to promote general wellbeing in an aged or other person affected by endocrine imbalance. The purposes of such therapy are good, the remedy presumably an appropriate and necessary one, and the dangers to the patient proportionately small. No immorality, therefore, need derive from these sources. Moreover, the treatment may be justified even though such side-effects as cessation of ovulation or loss of an embryo follow thereon. Presupposed, of course, is genuine necessity, and, where a pregnancy likely to be disturbed is known or suspected, an urgency for the therapeutic treatment which does not admit of delay.[40]

For such treatment to be moral, there must be no direct intending of the contraceptive effect along with the therapeutic benefit. One may not, in other words, seek and will the sterilization pre-

[39] The limits placed upon research by morality have been discussed in several allocutions of Pius XII. See, for example, that to the First International Congress on Histopathology of the Nervous System (September 14, 1952), in *A.A.S.*, 44 (1952), 782 ff. A translation of the address will be found in: *The Moral Limits of Medical Research and Treatment* (Washington: National Catholic Welfare Conference, 1953).

[40] Numerous examples of where the principle of double effect can apply in connection with indirect sterilization and death of the fetus will be found in various moral theology texts. See, for example, H. Davis, *Moral and Pastoral Theology* (4 vols., London: Sheed and Ward, 1948), II, p. 124-167; B. H. Merkelbach, *Quaestiones de Embryologia et de Sterilisatione* (Liége: La Pensée Catholique, 1937); G. Kelly, *Medico-Moral Problems* (St. Louis: Catholic Hospital Association); Lanza-Palazzini, *De Castitate,* p. 274-303 (the Appendix to their *Theologia Moralis*). The *Linacre Quarterly* (Federation of Catholic Physicians Guilds) has several times carried articles or comment on the moral aspects of hormone therapy.

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cisely as a means of enjoying sex relations without fear of conception. Nor may the loss of an embryo be intended directly, either as a means of fertility regulation or otherwise. For then the principle of double effect would not apply.[41]

(3) There is no immorality inherent in making application of fertility-research findings *to determine accurately the time of ovulation.* Previously, conscientious application of this kind has been made to the findings of Ogino and Knaus concerning the period of fertility and its calculation on a calendar basis. Discoveries regarding temperature change over the female cycle have been put to similar use. It can be anticipated that as one result of current research, there might be devised physiological tests to determine more precisely than heretofore when ovulation has occurred and/or when the phase immediately preceding ovulation has begun. Such tests need not be of a kind which would render them immoral because of means employed.[42] Although determinations of this sort are utilized to promote conception in couples relatively sterile (a manifestly permissible objective), their primary use is in connection with periodic continence. Accurate physiological testing would ensure greater efficiency in its use than is sometimes now the case. Pius XII, it may be noted, has mentioned understandingly the hope that science "will succeed in providing this licit method with a sufficiently secure basis."[43]

[41] It is functional sterilization precisely as a means to prevent conception, and interference with implantation or pregnancy precisely as a means of preventing childbirth or reducing fertility, against which moral stricture is directed. See (5) of this section, below. (It would not, of course, be permissible to mutilate the body [functionally or otherwise] or to interfere with the role of nature in generation for *any* reason other than genuine therapeutic necessity, and then only when contraceptive sterilization or destruction of the fetus is not *directly* intended.)

[42] Among tests commonly spoken of are those of a chromatographic nature, that is where physiological changes are detected through color reactions on use of a testing agent. Thus, there might be developed a simple urine test, whereby changes in the phases of the female cycle would be detected in much the same way as in diabetic tests. Tests of chemical changes occurring in the vagina might also be devised. The "ideal" test would be one of the litmus-paper variety, whereby significant changes could be recorded and interpreted by anyone capable of elementary instruction. Currently used tests of proven character are of the laboratory variety.

[43] Pius XII, Allocution to the Congress of the "Family Front" and Association of Large Families, November 26, 1951; *A.A.S.*, 43 (1951), 859. The

(4) There is a possibility that findings of current fertility research may be applicable in *regularizing the female cycle*. Thus ovulation, and hence ascertainable days of fertility, would occur on schedule. If such use implies no more than therapeutic treatment to correct anovulation or other cyclic disorder (not all medical men are convinced of the effectiveness of certain techniques in this connection), then it is reducible to (2) above. That more effective use of periodic continence may follow upon such treatment, and that this is anticipated and hoped for, does not render such treatment immoral. In this connection, the observations in (3) above may be relevant.

If, however, the "regularization of cycle" means safeguarding against unexpected ovulations in an individual otherwise classifiable as healthy, some distinction may be in order. There are those who regard "irregularity" of ovulation as an abnormal or pathological condition, even though general physical health be good and the off-schedule ovulation is in a given case traceable only to psychic factors. They would argue that undue anxiety, tension or nervous strain, fear or excitement above average, and the like, may be viewed as mildly pathological in a psychic sense, and that treatment to forestall untoward effects (in this instance, unexpected or irregular ovulation) is not inappropriate. They see an analogy here with (2) above, and would not rule out treatment simply because more effective observance of periodic continence is the primary or sole motivating force.[44]

Pope said: "On the other hand, the Church knows how to consider with sympathy and understanding the real difficulties of the married state in our day. Therefore, in Our last allocution on conjugal morality, We affirmed the legitimacy and, at the same time, the limits—in truth quite broad—for a regulation of offspring, which, unlike so-called *'birth control,'* is compatible with the law of God. One may even hope (but in this matter the Church naturally leaves the judgment to medical science) that science will succeed in providing this licit method with a sufficiently secure basis and the most recent information seems to confirm such a hope."

[44] It is in such a connection that the distinction between end and means comes out clearly. Not the attempt to regulate fertility (number of children, offspring, childbearing) as such is wrong (at least where just reasons exist for regulation), but the adoption of means contrary to nature. Delay of marriage, protracted abstinence within marriage, periodic continence, all are morally acceptable as in accord with nature. On the other hand, sterilization (surgical or functional, permanent or temporary), mechanical or chemical contraceptives, feticide, abortion, infanticide, all are morally unacceptable

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Others point out that at least an occasional unexpected ovulation occurs in many women, and that mild psychic upsets are part of ordinary human existence. They question their abnormality in a truly pathological sense. They argue that one cannot define a "normal" cycle for a given individual in terms of a statistical average (such as 28 days, plus or minus). They see possibilities of abuse and of bad intention, should women take the new drugs to ward off ovulation until the "scheduled" day of the cycle arrives. They note that couples, committed in principle only to periodic continence, having gotten safely to the "normal" time of ovulation, may for special reasons extend the time somewhat and thus resort to physiological regulation of a manifestly illicit sort.[45]

It is not our intention to attempt here a resolution of this disagreement but simply to indicate its existence. It may be the views are not so divergent as they seem, and that both have elements of truth in them. Obviously this is a twilight area, where proper moral evaluation requires careful consideration of intent, implications, and likelihood of sinful abuse, both in particular cases and in general practice. Furthermore, the last word has not been said on the scientific facts, including what constitutes a "normal" cycle (supposing this to be definable), how abnormality is to be judged, and to what extent and by what means, if any, regularization might be effected. For the present, at least, until additional clarification is forthcoming, it would seem that caution in passing judgment on this aspect of the matter is advisable.

One point, however, can be made with sureness even now. For treatment of this sort to be morally licit, it may go no further than

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because they attack or frustrate nature, and in some instances also the life and rights of the child. They achieve their objective (which in itself can be legitimate), not by doing what is within man's rights (namely, abstaining from use of marriage) but by interfering with and circumventing the role of nature, which is not within his rights. In accordance with this distinction, correction of cyclical disorders would not be wrong simply because more effective regulation of offspring is the motivating force for seeking therapy.

[45] Here again distinction must be made between merely regulatory or corrective use (which would presuppose a goal of normal cyclical function, with ovulation, and hence fertile days, occurring on schedule) and use which seeks to frustrate nature by eliminating ovulation through suspension of function. In the *American Ecclesiastical Review,* 137: 50-51 (July, 1957), Father Connell comments that purely regulatory use would not be immoral in itself.

being "regulatory" or corrective. Were it resorted to simply to suspend ovulation indefinitely, or beyond what seems a normal cycle for a given individual, then we are dealing with a case of willful physiological interference for purposes indistinguishable from contraception (as regards intent if not in procedure), and hence from functional sterilization as explained above. In any case, the *immediate* means of regulating offspring may be no other than periodic continence, the morality of which is judged as in any application of that method.[46]

(5) The principal moral issue, however, in applying the findings of contemporary fertility research, relates to the *use of physiologic measures precisely to prevent conception or to destroy its product.* Such use necessarily involves deliberate interference in generative processes solely for contraceptive ends. The immediate means employed, moreover, are classifiable as sterilization (albeit temporary), or as feticide-abortion. Here the principle of double effect cannot apply, since frustration of nature's role in generation, not its assisting, is directly intended. Nor may one invoke the principle of totality (that it is permissible to sacrifice a bodily part, organ, or function, where requisite to life or health of the person), for the embryo or fetus has a life and individuality of its own, and may not be subordinated to the welfare of another individual or of society. Accordingly, physiological control procedures as a substitute for prevailing forms of positive contraception are morally unacceptable.

Inasmuch as the effects of physiologic control vary with the procedure employed (namely, the drug or factor administered, and perhaps the time of its administration), some distinction is needed in arriving at the total objective morality in the several cases possible. In each instance where marriage is used while deliberately frustrating or intending to frustrate (here by physiological means) the role of nature, there is involved a sin of unchastity. But then, depending on the factor or procedure employed, physiological interference also involves an objective sin of unjustifiable mutilation (functional sterilization) and/or feticide or abortion as well. Sub-

[46] For a survey of recent thinking on the subject of "rhythm," see: J. A. Goodwine, "The Problem of Periodic Continence," *American Ecclesiastical Review,* 137: 156-157 (September, 1957). Father Goodwine notes some of the factors which have occasioned misunderstandings on the subject.

jectively, of course, the individual's state of knowledge and his deliberate intent must be taken into account in accordance with customary norms.[47]

For judging the specific morality of the physiological control procedures being proposed, guiding principles are found in existing documents of the Holy See and in the common teaching of the Church regarding sex and reproductive behavior. Moreover, certain aspects of physiologic control have already been subjected to scrutiny by moralists, and a pattern of moral evaluation is beginning to emerge.[48]

(a) Control measures which have their antifertility *effect before fertilization,* for the most part, fall clearly within the category of direct sterilization, as indicated above, and must be judged accordingly. Thus, voluntary suspension of spermatogenesis or of ovulation for control purposes constitutes unwarranted interference with generative function. It is also objectionable morally for the same reasons as the more traditional forms of sterilization. That the effect is produced physiologically rather than surgically, and may be reversed at will (hence temporary), does not alter the basic morality.

So far as the sterilization aspect is concerned, the 1940 decree of the Holy Office seems applicable here, even though certain physiologic control measures may not have been foreseen at the time. In circumstances when the Nazis were resorting to wide-

[47] Moral theology texts provide the guiding principles. Account should of course be taken of the Instruction of the Holy Office (February 2, 1956) on Situation Ethics, *A.A.S.,* 48 (1956), 144-145. Therein insistence is laid on the necessity for adhering to objective norms, and not yielding to an existentialist ethic based on subjective norms.

[48] For discussion of certain moral aspects of physiologic control of fertility, see, among others: J. J. Lynch, "Fertility Control and the Moral Law," *Linacre Quarterly,* 20:83-88 (August, 1953); A. Snoeck, "Hesperidin and the Moral Law," *Theology Digest,* 2:102-105 (Spring, 1954). A very early comment on the morality of physiologic control appeared in *American Ecclesiastical Review,* 83:633-634 (December, 1930), in response to a query concerning announcement (November, 1929) of an allegedly successful Russian experiment where women were inoculated against pregnancy with a serum made from seminal fluid. The *AER* editors at the time noted: "It certainly is not permissible to use the serum in any case. The whole business is an abomination both in the obtaining and use of the serum. There is no problem here. The thing is clearly all wrong."

spread sterilization, and were carrying out experiments in this connection, the Holy Office was asked for an explicit statement on the subject.[49] It affirmed unequivocably that any *direct* sterilization, "of man or woman, either perpetual or temporary," is morally wrong, and, moreover, "is forbidden by the law of nature." This, then, was not merely a disciplinary directive, or a maneuver against Nazi excesses, but was intended as a statement of the natural law in the matter.[50]

That the sterilizing effects in question presuppose no surgical interference, nor any notable wounding or destruction of organs or tissue, does not remove the control procedures from the category of unjustified mutilation. For this latter concept is now understood to include any significant impairment of function, directly intended, and not requisite for preservation of life or health.[51] Admittedly the concept of functional sterilization is not fully developed or adequately defined. Undoubtedly it will receive increasing attention as physiological control measures become more widely known and used.

Moralists are not in full accord as to exactly how far the concept of mutilation should be extended when it comes to less significant

[49] The Holy Office has already been queried about the morality of the German eugenics law, and in a private reply (dated August 11, 1936) had informed the member of the hierarchy submitting the question, that the procedures involved were morally indefensible, so that formal co-operation was out of the question. Latin text of this document appears in: F. Huerth, *Litterae Encyclicae* (de matrimonio Christiano) rev. ed. (Rome: Gregorian Univ. Press, 1953); *Pastor Bonus*, 4 (1940), 223 f.

[50] *A.A.S.*, 32 (1940), 73; text also in *American Ecclesiastical Review*, 102:431 (May, 1940), and in Huerth, *Litterae Encyclicae*, p. 116.

[51] Functional sterilization by surgical means, including removal of a healthy organ because its secretions are proving harmful to diseased parts of the body, was discussed by Pius XII in his allocution to the Italian Society of Urology (October 8, 1953), *A.A.S.*, 45 (1953), 674-675. The Pope was not referring to the type of functional sterilization under discussion here, namely that which is exclusively physiological in character. However, the remarks he made regarding the moral limits imposed on such intervention are apposite.

On this occasion the Pope said: "Three things determine the moral lawfulness of a surgical intervention which involves an anatomical or functional mutilation: first, that the retention or the functioning of a particular organ in the whole body brings about in the latter serious damage or constitutes a threat; secondly, that this damage cannot be avoided, or at least notably lessened, except by the mutilation in question, and that the efficacy of the means be quite certain; finally, that one can reasonably foresee that the nega-

functions or procedures. But no such disagreement exists today regarding the inherent evil of direct human sterilization. For the functions and organs interfered with are intimately related not only to the individual's bodily and even emotional wellbeing, but also to reproduction and hence to the continuation of the human species.

There is a strong opinion which says that when it comes to sterilization, the effect intended and/or achieved may provide a surer criterion for judging the morality of a given procedure or action than does the means whereby the effect is produced. This is notably so where the means are neutral or open to ambiguous interpretation.[52] But the voluntary and direct suspension of func-

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tive effect, namely, the mutilation and its consequences, will be compensated for by the positive effect, namely, the suppression of danger to the whole organism, the alleviation of pain, etc."

After explaining how the principle of totality is here applicable, the Pope continued: "We see, however, that We must draw attention to a false application of the principle explained above. It is not rare, when gynecological complications necessitate surgical intervention, or even independently of that, that one removes healthy oviducts or else renders them unable to function in order to prevent another pregnancy and the grave danger to the health or even the life of the mother which could perhaps result from it, dangers whose cause is ascribable to other diseased organs, such as the kidneys, the heart, the lungs, but which are aggravated by pregnancy. In order to justify the removal of the oviducts one brings forward as proof the principle just mentioned, and says it is morally permitted to interfere with healthy organs when the good of the whole demands it. Here, however, it is wrong to appeal to the principle. For in such a case, the danger which the mother faces does not result, directly or indirectly, from the presence or the normal functioning of the oviducts nor from their influence upon the sick organs, kidneys, heart, etc. The danger appears only if freely chosen sexual activity brings about pregnancy which in turn could threaten the aforesaid organs which are too weak or diseased. The conditions which permit us to dispose of a part for the good of the whole, by virtue of the principle of totality, are lacking. It is, then, not morally permissible to interfere with the healthy oviducts."

[52] As indicated above (in sections on interference and on classification), the progestational compounds may have multiple effects and multiple uses. In certain types of hormone therapy, temporary sterility may occur as a side effect, though not directly intended. Even when used for antifertility purposes, it is not necessarily clear (at least in the present state of scientific knowledge) when some synthetic hormones have their final effect. In some instances, at least, this may be by preventing implantation rather than by preventing conception. Timing of the dosage might make the difference. See Footnote 17 above.

tion in the sex organs, so that the sex act cannot result in what otherwise might be its consequences, constitutes a clear indication of intent. In thus judging the morality of certain measures in the concrete, subtleties regarding possible multiple outcomes of certain hormonal compounds and treatments can be transmitted.

(b) Proposals for physiologic control of fertility also include measures which have their effect *after fertilization has occurred.* In some instances this would be the culmination of physiological interactions set in motion in advance of coitus and fertilization.[53] It could also be the outcome of drugs taken subsequent to coitus and even after establishment of pregnancy. Now these measures are aimed at destruction of the young organism in one or other of the following stages: (1) while passing down the tube prior to implantation; (2) at the time of nidation; (3) during the early days of development after implantation. There is, of course, the further possibility of destroying the fetus or of terminating the pregnancy at a later stage by physiological reactions. Clearly, in all these instances there are involved moral considerations over and above those relating to unjustified interference with generative process prior to conception.

When an effect of the sort indicated is deliberately induced, as happens with antifertility factors taking final effect after fertilization, then the user intends to destroy life presumably human. In objective terms, his guilt is similar to that of one who resorts to feticide or abortion in the later stages of gestation. That there exist unresolved problems on the speculative level concerning the precise moment of infusion of the human soul does not relieve him of his guilt.[54] For in situations like this the person acting must accept

[53] See Footnote 19.

[54] Although at times overly polemical, the most readable treatment in English of the question of the time of animation of the human embryo is in E. C. Messenger (ed.), *Theology and Evolution* (Westminster: Newman Press, 1950), p. 217-332; the studies in this series of essays are for the most part by Father Messenger and Canon Henri de Dorlodot. See also: M. M. Hudeszek, "De tempore animationis foetus humani secondum embryiologiam hodiernam," *Angelicum,* 29: 162-181 (April-June, 1952); H. M. Hering, "De tempore animationis foetus humani," *Angelicum,* 28: 18-29 (January-March, 1951); Thomas Harper, *Metaphysics of the School* (3 vols., London: Macmillan, 1879-84), II, p. 553-561; E. Hugon, *Cursus Philosophiae Thomisticae* (Paris: Lethielleux, 1922), III, 197-204; William Reany, *The Creation of the Human Soul* (New York: Benziger, 1932), p. 173-198. For some

responsibility for the greater crime likely to result. He already intends it implicitly and should it occur. Put another way, the action cannot be condoned of one who kills a man because he deliberately shot at an object probably either a hunter or a deer. Nevertheless, in judging concrete cases account may have to be taken of the fact that many persons, particularly in non-Christian areas of the world, are not accustomed to think of the early embryo or immature fetus precisely in this way. Subjectively, they perhaps have not fully grasped the objective moral situation in its entirety.[55]

But even were there certainty that an embryo or fetus had no rational soul until some time after conception, interference of this sort would constitute a more serious frustration of nature's role in generative process than does interference prior to fertilization. Hence, if control measures of the latter kind are seriously wrong, then *a fortiori* types destructive of a fertilized ovum or embryo are even more so. For there is involved an attack upon life already in process of growth, which if not actually human, is intrinsically destined to become such.[56]

Nevertheless, the physiological measures here referred to (those taking effect after fertilization), do not necessarily result in abortion as technically understood. Were the drugs in question taken early enough, there might be no ejection of an immature fetus, but rather the disintegration or resorption of the still small product of conception. Hence, while the procedure remains gravely sinful, and akin to abortion as regards intent, the customary conditions for incurring canonical censure are not fulfilled in every case.[57]

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reason, literature in defense of the mediate animation theory seems easier to locate. However, as already noted, the morality of measures for physiological control *after* fertilization does not depend in its basic elements upon resolution of the speculative question. Antifertility procedures of the kind envisioned are seriously wrong in any case.

[55] On some Japanese attitudes toward the immature fetus, see: T. K. Burch, "Patterns of Induced Abortion and Their Socio-Moral Implications in Postwar Japan," *Social Compass* (The Hague), Vol. 3, no. 4 (1955).

[56] In this connection see: F. Huerth, *De Re Matrimoniali* (Rome: Gregorian Univ. Press, 1955), p. 90-91. After admitting the weight of arguments in favor of mediate animation, though questioning their conclusiveness, Father Huerth goes on to discuss the moral gravity of destroying directly an embryo which is at least *homo in fieri*.

[57] Canon 2350, n. 1, reads: "Procurantes abortum, matre non excepta, incurrunt, effectu secuto, in excommunicationem latae sententiae Ordinario reserv-

(c) When it comes to classifying possible procedures, and evaluating the morality of specific practices, physiologic control of fertility is not without its problem area. Thus, a vaginal tablet, of the progestational-compound variety, is a likely development. Experimental use already indicates its feasibility. To outward appearance it seems little different from contraceptive tablets already known. Yet its mode of operating is through physiological process, rather than as a spermicidal chemical agent alien to the body.[58]

Other procedures of this type are possible, if not already developed. For example, a vaginal suppository, or even a drug taken orally, might be used so to modify acidity level in the vagina, or otherwise render the female tract unfavorable, that life, motility, or potency of the sperm is impaired. The effecting of such results need require no interference with male process. In the female the maturation and emission of ova (ovulation) might go on as usual. The only variation from normal function would be the kind of modifications indicated.

To perceive in such measures more than another form of contraception of the chemical-spermicidal variety will require attention to the scientific facts, as well as reflection upon their implications. It will help to have clearly established in one's mind the logical dividing line between the two approaches—chemical-

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atam; et si sint clerici praeterea deponantur." (Those who procure abortion, the mother included, incur, should the effect follow, an excommunication *latae sententiae* reserved to the Ordinary; moreover, if they be clerics, let them be deposed.) The effect envisioned, according to common interpretation, is expulsion of an immature fetus, that is, one incapable of living outside the mother's womb. Cf. F. M. Capello, *De Censuris,* rev. ed. (Rome: Marietti, 1950), no. 384; T. L. Bouscaren and A. C. Ellis, *Canon Law:* A *Text and Commentary,* rev. ed. (Milwaukee: Bruce, 1957), p. 942 f.

In the physiologic control procedures in question, there need be no expulsion of the fetus. Disintegration or resorption, in the early stages of growth, may have occurred (see Footnote 20 above). Moreover, in the case of one using a drug capable of ambiguous results (see Footnotes 17 and 52), the possibility of killing a fetus might not be known or foreseen, and the actual death might not be realized.

[58] It is admittedly difficult to say that some spermicides even now in use do not also act physiologically. A chemical introduced into the vagina prior to coitus may so intermingle with the mucus secretions that, after a period of time, it may seem to be a part of vaginal fluids; it may indeed enter into chemical combination with them. But the process would seem to remain primarily chemical, whereas in the case of clearcut physiological control,

contraceptive and physiological-sterilizing. Perhaps it is more than a guess to suggest that the mutilation-sterilization aspects of this kind of control procedure will elude many untrained persons.[59]

V. CONCLUSIONS AND IMPLICATIONS

Once antifertility drugs are marketed widely on a fairly inexpensive and presumably safe medical basis, their use by many can be expected. Motivation for adopting the new procedures will be varied. Some may prefer, on grounds of simplicity or esthetics, a drug to techniques they now follow. Others may be led, by reason of the publicity, to experiment with the new methods, especially if they experienced failure or difficulty with more conventional contraceptives. Finally, there may be some who resort to physiologic control because in employing it they experience less revulsion or weaker feelings of guilt than is the case when they interfere directly with the marriage act.

There is, then, at least probability that pastoral problems will tend to multiply as the new methods come into use. Special difficulty can be anticipated in getting less perceptive or less conscientious persons to see the moral distinctions mentioned above, and the gravity of sins involved. Unless properly instructed, some may even think the physiological methods lawful. Hence, there is wisdom in giving serious thought now to the emerging pastoral problems and to the best ways of providing needed instruction in the basic principles of marital chastity and of chaste sex behavior generally.

Account should be taken of the positive and constructive aspects of the fertility-research findings. Legitimate therapeutic treatment of female and generative disorders can be more effective. Fertility may be fostered more successfully in cases perhaps regarded now

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the antifertility factor becomes part of the bodily fluids or internal secretions through the medium of the body's life processes. In addition to the moral question of whether or not sterilization (and functional mutilation) is involved, there is also the question of possible physical harm to the body of one who used habitually antifertility drugs operating physiologically. The long run side-effects, as already indicated, are not yet demonstrated experimentally.

[59] On the mutilation-sterilization aspects, as well as the question of unchastity in use of marriage, see: J. J. Lynch, "Another Moral Aspect of Fertility Control," *Linacre Quarterly*, 20: 118-122 (November, 1953). See also Footnote 48 above.

as difficult or hopeless. Moreover, it would be surprising if out of the many research projects under way there does not emerge knowledge applicable to detecting fairly accurately the time of ovulation and the days of fertility in the cycle. Correction of "irregularity" by morally acceptable means is at least in some cases a possibility. Such developments would go far toward making periodic continence more effective in situations where its use seems called for.

The most important conclusions, however, relate to the moral unacceptability of physiological measures which interfere with normal generative function precisely as a means of preventing conception or destroying its product. To emphasize this is not to deny that reasons can and do exist for regulation of offspring. It is not to assert that natural law teaching favors high fertility under any and all circumstances, without regard for the particular problems of individuals, families, or society. It is to reaffirm, however, that not even legitimate ends may be sought by immoral means.

The above discussion has concentrated on the types of physiological procedures and the morality of their use. There remains much to be said about certain of the concepts involved, about particular drugs and procedures, about problems of pastoral care and instruction. Some of the arguments advanced by advocates of physiologic control, for example, concerning the prodigality of nature and the organic conception of society (as this relates to proposed sterilization of individuals for the good of the "whole") have been left for later consideration. Finally, there is a large area of moral interrelationships which needs exploring at an early date, namely the impact of fertility upon economic life and social aspirations.[60]

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[60] For a survey of some major issues involved, see: F. Lorimer, J. Bourgeois-Pichat, D. Kirk, "An Inquiry Concerning Some Ethical Principles Relating to Human Reproduction," *Social Compass,* Vol. 4, nn. 5-6 (1957), p. 201-212. In this purely personal inquiry, the noted author-demographers raise some questions regarding social responsibility and economic conditions associated with fertility. In an introductory comment (*ibid.,* p. 197-200), Dr. G. H. L. Zeegers, Director of the International Catholic Institute for Social Ecclesiastical Research, Geneva, gives some background data and comments on the inquiry.

Answers to Questions

WHERE IS THE NINTH LESSON?

Question: For the ninth lesson of Matins in the Office of Saint Mathias this year (Feb. 24th) my *Ordo* (Kenedy) gave the initial words *"Quod est"* but I haven't found that lesson yet. On the other hand, my breviary carried a mark at the halfway point in the eighth lesson which indicated that I should use the eighth lesson for the last two, with the response interjected at the place of the mark. Can you shed any light on this problem?

Answer: Your problem arises, of course, from the fact that we are necessarily using out-of-date breviaries until the expected greater change comes, when publishers will be permitted to incorporate all the modifications. If you had gone back to the *pars hiemalis* which you had put in wraps a day or two before, you would have found the *"Quod est"* printed as the ninth lesson for February 24th (25th), since there was little likelihood of a conflict of the ninth lesson of that day with the homily of a Lenten feria as long as the *pars hiemalis* was still in use. In view of the fact that the Decree of March 23, 1955, has abolished the reading of the Lenten homily as a ninth lesson in sanctoral offices, we now have a bit of searching to do occasionally to find the proper ninth lesson when we read a sanctoral office in Lent. The dividing mark found in the eighth lesson in some breviaries printed since the decree would seem to offer a convenient way out but it is my feeling that the proper ninth lesson should be read if there is not too great difficulty finding it. Ordinarily but not always, it will be found in the Common usual to the saint whose office is being recited. The *"Quod est,"* for example, is to be found in the *Commune Abbatum* to which reference is given in the *Commune Apostolorum extra Tempus Paschale.* Since we may be laboring under this difficulty for some time, why not jot down the references *in proprio loco* as we find them now?

CANDLEMAS PROCESSION

Question: With February 2nd falling on Septuagesima Sunday this year and the consequent transfer of the Purification to Monday, I was puzzled what to do about the blessing of candles. I finally decided to bless a quantity of candles before our Sunday High Mass, and immediately after the prayers, incensation, and sprinkling with holy water, I changed from cope to chasuble and began the Mass of Septuagesima. Was I correct?

Answer: February 2nd is always Candlemas whether the Purification is observed on that day or is transferred. You were correct, then, in blessing the candles before the principal Mass on Sunday, February 2nd, but you erred in omitting the distribution of the candles and the procession. There seems to be a fairly common notion that February 2nd is a day when candles to be used during the year are blessed with a little extra solemnity. The fact is that candles are blessed on this day specifically for use in the procession prescribed. If, for a just reason, there is no procession, there should be no public blessing of candles. It would be a great help in the liturgical revival if this procession in honor of the "light of revelation to the Gentiles" were restored to its rightful place in parochial observance.

THE CELEBRANT AT THE CONFITEOR OF SOLEMN MASS

Question: What is the position of the celebrant at a Solemn Mass when the deacon is singing or reciting the *Confiteor* before the distribution of Holy Communion?

Answer: After he has genuflected with the deacon and subdeacon and as these ministers go to the Epistle and Gospel sides, respectively, for the singing or recitation of the *Confiteor,* the celebrant, according to J. B. O'Connell *(The Celebration of the Mass),* "withdraws a little to the Gospel side and faces the Epistle corner in such a way as to be half turned towards the altar, and half towards the communicants," in almost the same position he occupies for the *Misereatur* in a low Mass. The wording of Martinucci implies that the position is identical with that at low Mass (i.e., turned

a little more than half toward the communicants) and this would seem to be more correct, for neither J. B. O'Connell nor Martinucci mentions any further change of position for the celebrant when he says the *Misereatur* at Solemn Mass.

KISSING THE VESTMENTS ON UNVESTING

Question: Are the vestments which the celebrant kisses while vesting for Mass to be kissed as he is unvesting?

Answer: The *Ritus servandus in celebratione Missae,* which specifically directs that the amice, maniple, and stole be kissed when the celebrant is vesting, is silent on the manner of unvesting. Some rubricists prescribe the kisses at the unvesting (e.g., J. B. O'Connell, *The Celebration of the Mass:* "By usage and in analogy with the kisses that are prescribed at the vesting"); others direct that these vestments not be kissed at the unvesting (e.g., *Matters Liturgical,* No. 201). You may take your choice.

JOHN P. MCCORMICK, S.S.

TELEPHONE MANNERS

Question: Do you not believe that telephone manners could be improved on the part of many of those who answer the telephone calls in rectories and religious institutions?

Answer: I agree heartily with the opinion expressed by the correspondent. Certainly, proper telephone manners, being a phase of courtesy, are expected from all persons, especially from those who profess to accept in a special way the principles of charity laid down by Jesus Christ—that is, priests and religious. When a lay person, Catholic or non-Catholic, telephones to a rectory or to a religious house, he naturally expects basic courtesy from the one who answers the call, whether this person be priest, religious or lay servant. But the deplorable fact is that sometimes such courtesy is lacking. There may be even downright rudeness or uncouthness in the reply. For example, he may be answered in some such ways as these: "Why didn't you listen to the schedule of Masses

announced last Sunday?" (To a transient, who was a thousand miles away last Sunday.) . . ."How do you expect me to know when he'll return? I'm only the pastor.". . ."Can't you let a poor guy take his meals in peace?". . ."Father Smith? O.K. (Shout) Tommy, some dame is calling you.". . . etc., etc.

I am sure that lay persons are sometimes shocked and angered by the answers they receive over the telephone from rectories and religious houses—answers that would merit the dismissal of such persons themselves from their job if they used them with prospective customers. And the excuse that priests or religious sometimes give: "It gets on my nerves to be always answering foolish calls" has no validity. Anyone assigned to answer a telephone must consider it his job to answer foolish calls and unnecessary calls patiently and courteously. If a person feels he is unable to do this, he should not answer telephone calls.

In a rectory it is sometimes the housekeeper that takes up the receiver. She should be told just what to say—for example, "Good morning. This is St. John's rectory. What can I do for you"—"I shall try to locate him. Please wait a moment.". . ."Do you wish me to give him a message when he returns?", etc.—not "Hello. What d'ye want?" On a Sunday morning she must repeat the schedule of Masses just as courteously for the fiftieth inquirer as for the first. If a housekeeper refuses to conform to directions, the priest should get rid of her, even though she is the best cook in town. She is causing bad public relations, in the terms of modern business, which in our terminology means that she is impeding the work of Christ's Church. If the priest hasn't the courage to discharge her, let him take the telephone calls himself. But let him remember that he must practice the patience that he finds lacking in her. If he is patient for ninety-nine calls but loses his temper at the one-hundredth, it may mean that a prospective convert is lost forever to the Church of Christ.

THE BODY AS THE TEMPLE OF THE HOLY GHOST

Question: I recently heard the statement made in a sermon that from the very first instant of its existence the body of every human being is under the care of the Church because it is the temple of the Holy Ghost. Is this statement correct?

Answer: It is correct to say that the Church exercises a watchful care and protection over the body of every human being from the moment of its conception, because it is the will of God that the infant made up of the material body and a spiritual soul will one day become a member of the Mystical Body of Christ. Thus, in order to safeguard the life of even the most immature fetus, the Church imposes strict penalties on the crime of abortion. In order to assure the grace of Baptism for as many children as possible the Church instructs her members about the method of giving this sacrament and their obligation to confer it on an infant in danger of death. But it would be incorrect to say that the Church's care of the unbaptized child is based on the belief that the child's body *is* the temple of the Holy Ghost. It is only after the administration of Baptism that a child becomes the temple of the Holy Ghost. At most we can say that the Church reverences even the unbaptized child as a *potential* temple of the Holy Ghost.

THE ABLUTION OF WINE AT CHRISTMAS MASS

Question: A priest intends to say three Masses on Christmas, the second and third being private Masses of devotion. At the first Mass (midnight) the server pours wine in the chalice for the first ablution, and before consuming it the priest concludes that he should not drink it if he wishes to say the other two Masses. However, no cup is available and he drinks the wine. May he later say the other two Masses?

Answer: If he had intended to say the other two Masses immediately after the midnight Mass, he would not be permitted to do so after taking the ablution of wine, since these are simply private Masses of devotion, and there is no urgent need to celebrate them at once. But since the fast from alcoholic beverages before beginning Mass is now limited to three hours, he is permitted, as far as the eucharistic fast law is concerned, to begin his second Mass three hours after he took the wine. Indeed, according to Cardinal Ottaviani, he not only may but should take the usual ablutions, with wine, at the first Mass if there is to be an interval of three hours or more after the ablutions until the next Mass (*AER,* CXXXVII 2 [August, 1957], 74).

COEDUCATION IN CATHOLIC SCHOOLS

Question: What is the Catholic attitude toward coeducation?

Answer: In his Encyclical on Christian education Pope Pius XI explicitly declared the mind of the Catholic Church on coeducation. The Pontiff said: "False and harmful to Christian education is that method of instructing youth which is commonly called coeducation . . . Both sexes have been so constituted by God's wisdom that in the family and in society they complement each other and aptly coalesce into a form of unity on account of the very distinction of body and soul by which they differ from each other, and which accordingly must be maintained in education and instruction, and even fostered by proper distinction and separation, suitable to ages and circumstances" (*AAS*, XXII [1930], 72).

Hence, there can be no doubt that the ideal method of Christian education is realized only when boys and girls are educated in separate classes. It is true, there can be circumstances which would justify coeducation in practice. For example, when a pastor cannot afford sufficient classroom space to maintain separate classes for boys and girls, it would surely be the lesser of two evils to educate both sexes together than to deprive one of a Catholic education. But it would be contrary to the traditional teaching of the Church and the authoritative teaching of Pope Pius XI to hold that coeducation is in itself the better system.

It is interesting to note that in the United States, where coeducation was for a time generally lauded as the ideal, recent happenings—particularly the lack of interest on the part of many young folks in their studies and the alarming increase in juvenile delinquency—have induced not a few educators to suggest separate schools for boys and girls. May it not be that in this matter, as in the case of many other problems of life, we shall soon see on the part of the world a return to the traditional policy of the Catholic Church?

FRANCIS J. CONNELL, C.SS.R.

BOOK REVIEWS

THE AMERICAN PARISH AND THE ROMAN LITURGY. By H. A. Reinhold. New York: The Macmillan Company, 1958. Pp. xii + 148. $3.50.

For many years Father Reinhold has been, first in his native Germany, and then in this country, an earnest and unwearied advocate of the "Liturgical Movement." The present volume is his latest contribution to his cause. It contains, generally in somewhat revised form, a good deal of material he has published previously in Catholic periodicals.

Essentially, *The American Parish and the Roman Liturgy* is a long exhortation intended to bring Catholics to adopt the author's own attitude towards the Church's liturgy and its liturgical life. Father Reinhold's insistence on the need for a reverent celebration of and assistance at the Sacrifice of the Mass is admirable. Yet the many excellent features of his book have been in great measure vitiated by a spirit of irreverence that manifests itself far too frequently when Father Reinhold is referring to practices distasteful to him.

Thus we read on p. 11: "It is not uncommon, but still unliturgical, to close the day with one or the other form of 'putting Jesus to bed' in the tabernacle by slowly closing the doors to the tune 'Good Night, Sweet Jesus,' while the sacristan skillfully uses a dimming device for the church lights." Father Reinhold adds immediately: "This is not only in bad taste and maudlin sentimentality, but it shows a peculiar lack of dogmatic sensitivity and sacramental propriety." Unfortunately, his strictures apply far more properly to his own previous sentence than to the practice he so vehemently deplores.

Father Reinhold believes that "Those who resist the vernacular may believe that they are doing something for the liturgical movement, but any pastor of any parish can tell them that they are only continuing the work of Cluny: they are making participation so difficult as to relegate it again to the monks, clerics, and musicians, while the *misera contribuens plebs* is offered a superb show for their contributions" (p. 43). He speaks of the Divine Praises as "a hodgepodge of exclamations" (p. 138).

This spirit of irreverence tends to bring about a situation which the author certainly would not desire at all. It is manifestly motivated by his own anxiety to get his own point of view across as forcefully as possible. Unfortunately, however, the author's approach is such as to

incline the reader to scoff at the services he actually finds in most of the Catholic churches in this country. A man has a perfect right to express his disapproval of a sentimental hymn frequently sung after an evening Benediction of the Blessed Sacrament. But he has no right to infer or to write that the people who sing this particular hymn imagine that they are thereby putting Our Lord to bed. Personally he may not care for the recitation of the Divine Praises after Mass, but he is not thereby entitled to qualify this prayer as "a hodgepodge of exclamations." And, although he may deplore the practice of giving Holy Communion before or after Mass, he is definitely in the wrong when he makes the following observation about people "who find nothing amiss in receiving before or after Mass or at any but the correct moment during Mass." Speaking of these people, who would seem to include those of the faithful who sometimes receive Holy Communion in this way, Father Reinhold has this to say: "To them the Mass is a device, however complicated, to produce hosts for the tabernacle. The priest has to go through a fore-Mass, through the Offertory, through a whole collection of consecratory prayers, while all that is needed for Communion, as they understand it, is a set of words that actually produce or 'confect' the Eucharist, a handy tabernacle, and a priest or two taking turns at the Communion rail" (p. 21).

It seems impossible to believe that anyone could imagine that people who sometimes receive Communion at times other than the prescribed moment in the Mass, or that the priests who distribute Communion to them, could have such sentiments. If the author of *The American Parish and the Roman Liturgy* is serious in his assertion, he is sadly misinformed. If his statement is other than serious, it is in very questionable taste.

JOSEPH CLIFFORD FENTON

GOLGATHA AND THE CHURCH OF THE HOLY SEPULCHRE. By Andre Parrot. Trans. by Edwin Hudson. New York; Philosophical Library Inc., 1957. Pp. 127. $2.75.

The Gospels tell us that Our Lord was crucified outside the city of Jerusalem. The site of the crucifixion was near a gate, near a road, and was called "Golgatha" or the "Skull." If the modern pilgrim to the Holy Land looks for vestiges of the site of the crucifixion and the tomb of Christ, he is doomed to disappointment. Instead of a quiet place, suitable for meditation on this greatest of all events in the history of man, there is little to be seen that resembles the mental picture possessed

by many of the location and its topography. The pilgrim today will find the church of the Holy Sepulchre, not outside the city but within it, crowded on every side by other structures and resembling not at all the hill of Calvary nor the garden in which Christ was buried.

In 1883, General Gordon, the heroic defender of Khartoum, arrived in Jerusalem. As an amateur Biblical scholar he was interested in determining the exact site of the burial place of Our Lord. He discovered tombs lying to the north of the city, removed from the traditionally accepted site of the burial of Christ, and situated near a promontory which bore a startling resemblance to a skull. It was not this fact which influenced him so much as the discovery of certain ancient tombs nearby which caused him to be convinced that this was the site of Calvary. The validity of his discovery was accepted by many, including, for a short time, many members of the Anglican clergy. This interpretation of Gordon's is cogently and precisely rejected by Professor Parrot in this excellent treatise.

The author is the Curator-in-Chief of the French National Museums, Professor at the Ecole du Louvre, Paris, and Director of the Mari Archaeological Expedition. He knows whereof he speaks. In this well-documented report of his own and others' research, the traditionally accepted site of the tomb of Christ is upheld. Clearly and exactly Professor Parrot explains the divergent opinions held throughout the years concerning this problem and the reasons which gave rise to them.

The book is divided into four chapters. The first chapter presents the archaeological problem of the Holy Sepulchre; the difficulty of determining the exact site of the three walls of Jerusalem; the relationship of the Antonia, Herod's palace, and the tombs and gardens of the city to the burial place of Christ. Another chapter discusses the period of Constantine, and the Finding of the Cross. Tombs and ossuaries of ancient origin, along with the legendary tombs of Absalom, David, and St. James are discussed in another section of the book. Not the least of its good points is the detailed description of the Church of the Holy Sepulchre. In this description are presented the history of the church from the basilica of Constantine through the restorations by Modestos and Monomachos and the Crusaders down to our own day.

Well written, fascinating in its detail, with a wealth of historical fact and the findings of archaeology, this book is recommended to all. Within its pages, a new world will be revealed, a new insight to the exactness of the Gospels, and the inevitable conclusion that the findings of archaeology support and substantiate the writings of the Evangelists and the traditional beliefs regarding the site of the sepulchre of Christ.

JOHN F. NEVINS

LIVING LANGUAGES IN CATHOLIC WORSHIP. By Cyril Korolevsky. Translated by Donald Attwater. Westminster, Md.: The Newman Press, 1957. Pp. ix + 195. $3.50.

To the vital question of the use of the vernacular in the Liturgy, Fr. Korolevsky, a priest of the Byzantine Rite and consultant to the Oriental Congregation in Rome, brings first hand experience gained from actually celebrating the Liturgy in Greek, Slavonic, Rumanian and Arabic. The first draft of this book, the author tells us, was written in 1929 as a report presented to the Holy See upon request for information regarding the practice of the Eastern Rites in the matter of language.

Avoiding a too-heavy scientific apparatus, the author offers to readers who are not specialists in Eastern matters a clear and interesting history of the development of Oriental discipline in this matter. To this he adds some little-known facts regarding the use of the vernacular in Western Rites.

Discussing the use of the older eastern languages, the author describes how the use of national languages finally came to be a matter of principle for the East, a principle enunciated by the eminent Byzantine canonist Theodore Balsamon, in the twelfth century. In reply to a question of Mark, Melkite patriarch of Alexandria, as to whether Syrian and Armenian priests might be permitted to celebrate the sacred mysteries in their own language, Balsamon stated that "those who are wholly orthodox, but altogether ignorant of the Greek language, shall celebrate in their own language, provided only that they have exact versions of the customary prayers." Though at the time Balsamon required no control on the part of hierarchical authority over such a practice, later Pius XI was to insist that the approval of every new language pertained to the Apostolic See.

However, as a result of the not always uniform application of this Eastern principle, not all peoples can understand their liturgical language to the same degree. Of Arabic-speaking peoples the Melkites alone understand everything said in Church; the Copts can understand only those part of the Liturgy that are in Arabic. Maronites and other West Syrians are able to understand those services, which are numerous, celebrated in Arabic. On the other hand, the Malankarese have no trouble with their Malayalam. The Chaldeans grasp at least the general sense of their Syriac Liturgy. Rumanians, Georgians, Albanians (in Albania) and Byzantine Hungarians, all of whom use their daily speech in the Liturgy, understand everything. As for the Greeks, it depends on the degrees of the individual's education, for liturgical Greek is the language of the third to the sixth centuries and differs